

*American*

# FORESTS

NOVEMBER 1952

50 CENTS



2nd Lt.  
Joseph C. Rodriguez  
U.S. Army  
Medal of Honor



**S**IXTY YARDS TO GO. From atop the hill, near Munye-ri, Korea, the enemy suddenly opened up a withering barrage. The squad was caught; Red mortars began zero-ing for the kill. Lieutenant Rodriguez (then Pfc., with only seven months service) broke loose and dashed up the fire-swept slope, throwing grenades. Disregarding the fire concentrated on him, he wiped out three foxholes and two gun emplacements. Alone, he accounted for 15 enemy dead, led the rout of the enemy, and saved the lives of his squad.

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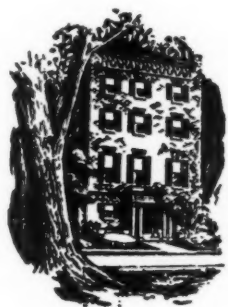
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VOLUME 58  
NUMBER 11  
NOVEMBER, 1952



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The American Forestry Association, publishers of *American Forests*, is a national organization— independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and the part they play in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

# American FORESTS

PUBLISHED BY THE AMERICAN FORESTRY ASSOCIATION

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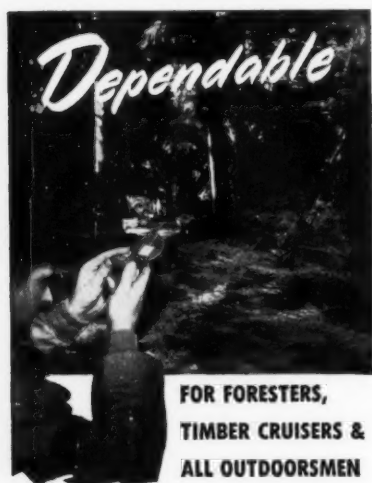
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**Cover**

*The scene is November. The stage is a vista of rolling, tree-fringed fields, mostly shorn of growing things but still striped here and there with shocked windrows of the harvest. Snug, almost remote, farm buildings dot the countryside. A rail fence, catching the chill, waning rays of the sun, follows the contour of the land to a distant backdrop of bleak sky. Upstage half-naked trees wear only the remnants of their once-brilliant Autumnal costumes in a final, somehow tragic, gesture before the curtain comes down in act three of the never-ending drama of seasons. And so it is as Nature shifts the scenery and winter waits in the wings. Harold M. Lambert photo.*



AMERICAN FORESTS is published monthly by The American Forestry Association at 919 Seventeenth Street, N. W., Washington 6, D. C. Subscription price \$5 a year. Editors are not responsible for loss or injury of manuscripts and photographs while in their possession or in transit. The Editors are not responsible for views expressed in signed articles. Entered as second-class matter at the Postoffice at Washington, D. C., under the Act of March 3, 1879. Acceptable for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918. Additional entry at Baltimore, Maryland, December 29, 1931. Copyright, 1952, by The American Forestry Association.



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# AMERICAN FORESTS Forum

**Looking Ahead**—*American Forests* next month will feature a special reader dividend—a summary of an extensive report on the nation's current forest situation prepared by The Conservation Foundation. To be printed as a supplement to the magazine, the digest will include industry, government and private views on the state of our forests as well as an evaluation of the diverse opinions by a top analyst from the New York foundation.

Also planned for the end-of-the-year issue are *Timber Up the Hill*, ALBERT ARNST's account of a new slant on steep slope logging aimed at reducing timber breakage; *Forests of Iran* in which HENRY KERNAN, currently in this Near East hotspot as a forestry counsel under the State Department's Point Four program, points up the little publicized importance of forests in a country known primarily for its oil; *Nahma and Hiawatha*, an interesting report by WILLIAM DUCHAINE about what's happened to an early day Michigan logging town since it was purchased on the auction block little more than a year ago; a closeup evaluation of *The Alabama Forestry Council* by KENNETH J. SEIGWORTH, TVA forester who played a part in the group's organization before taking over his present job; plus Miss TRUE DAY's timely little article on *The Nation's Christmas Tree*, and the usual Shade Tree and Woodland Management features.

**Among Our Authors**—ARTHUR W. PRIAULX, publicity director for the West Coast Lumbermen's Association, tells why long-suffering Tree Farmers are getting fed up with the misdeeds of a few irresponsible sportsmen in *Hunter's Paradise Imperiled* (page 6). *The "Firstest" Logger* (page 10), an interestingly-drawn word profile of William K. Dyche, colorful Northwest logging figure, is by Dr. W. F. McCULLOCH. Dr. McCulloch is acting dean of forestry at Oregon State College, Corvallis, Oregon, and acting head of the Oregon Forest Products Laboratory. HENRY KERNAN, forester-writer now in Iran on a State Department

assignment, points up a new angle in visual conservation education in *Hall of Conservation* (page 12), the word and picture description of revolutionary exhibits in the New York Museum of Natural History.

JOE TARDY, who takes the reader along on a delightful flight of fancy

### James B. Craig Named American Forests Editor

Appointment of James B. Craig as editor of *American Forests*, effective November 1, has been announced by Don P. Johnston, president, The American Forestry Association. Mr. Craig will take over the magazine's helm from Nort Baser, managing editor since September 1, 1950. Mr. Baser has resigned to take an attractive position in a related field.

For the past two and a half years Mr. Craig has been manager of the New York City news bureau of American Forest Products Industries.

A product of Akron, Ohio and Cumberland, Maryland newspapers, he first came to *American Forests* in August of 1947. After serving as assistant editor until December, 1949, he was named associate editor and held that position when he left in April, 1950 to establish AFPI's first full-time office in New York City.

Mr. Craig is a graduate of Kent State University, Kent, Ohio and is a veteran of World War II.

in *A Fowl Deal* (page 14), writes from a more or less permanent roost in Los Angeles, California. ROBERT FORBES, Idaho writer whose byline appears frequently in *American Forests*, tells of a new boon to forest fire fighting in *Aerial Photos in Fifteen Minutes* (page 28). *Norway Plans by the Century* (page 24) is an on the spot analysis by DENNIS STRONG of the Norwegian system of public regulation. Strong is a Yale grad-

(Turn to page 47)



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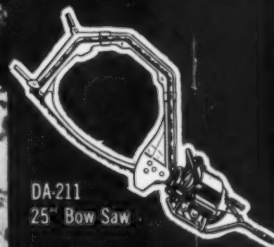
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## WASHINGTON LOOKOUT

By G. H. COLLINGWOOD

**Land policies** are again in the political picture, as they have been since the beginning of our history as a Nation. It started during the days when federation was being discussed, and the conclusions are reflected in Article IV, Section 3, of the Constitution of the United States. This empowers the Congress to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States.

As recently as the 82nd Congress the House Committee on Interior and Insular Affairs appointed a sub-committee to study and report on the multiplicity of laws relating to homesteading. Under the chairmanship of Representative Lloyd M. Bentsen, Jr., of Texas, and with the help of Jacob N. Wasserman, Chief Counsel of the Department of the Interior's Bureau of Land Management, the sub-committee recently completed hearings and on-the-ground studies in Alaska and many of the public land states.

Another evidence of interest in this subject is the plank in the Republican Party platform which expresses a desire to restore "the traditional Republican public land policy, which provided opportunity for ownership by citizens to promote highest land use."

**This has prompted** a review of American legislative history which reveals that the authority for setting aside portions of the public domain to form the forest reserves, and much of their development as national forests, has occurred during Republican administrations. President Benjamin Harrison signed the Act of March 3, 1891, under which any part of the public lands bearing forests could be set aside and declared public reserves.

The purposes of these reserves were clarified under President McKinley, and on February 1, 1905, with an element of the dramatic, President Theodore Roosevelt approved the Act of transferring the forest reserves from the Department of the Interior to the Department of Agriculture. Under that same champion of conservation the reserves were designated national forests.

Then, under President Taft, the Weeks Act was passed to authorize federal acquisition of land that the headwaters of navigable streams might be protected. This was the beginning of the eastern national forests. The same legislation provided the basis for the present co-operative program for protection of forests from fire.

The Coolidge administration augmented this authority in the Clarke-McNary Act and set the stage for the extensive forest research program now under way by passing the McNary-McSweeney Act. Finally, the Forest Pest Control Act of June 25, 1947, establishing a long-time co-operative program for the protection of forests against destructive insects and diseases, was a product of the 80th Congress. Thus, many of the forest programs so extensively developed during the Franklin Delano Roosevelt and Truman administrations are on foundations laid under Republican leadership.

**Reference to the** "traditional Republican public land policy," however, recalls a continuing record of arguments concerning the disposal of the public domain. Discussion seems to have been particularly hectic from about 1820 to 1860. In the latter year, President Buchanan vetoed a bill under which the federal government would have ceded all the remaining public lands to the states. This action was followed closely by passage of the Homestead Act.

Thereafter, with opportunities for anyone to take up land, many years followed when little attention was given to the question of ceding any of the remaining lands to the states. It came out in a new form, in 1926, when Senator Robert N. Stanfield, of Oregon, introduced a bill to solve some of the grazing problems by turning over control of the national forests and public domain to committees consisting of livestock owners.

The bill died after a short-lived struggle and without getting to the floor of either house, but the question arose again in 1929 when President Hoover told a conference of

western governors at Salt Lake City that with the exception of certain mineral rights, the remaining public lands should be ceded to the state in which they lie. In part, he stated as follows:

"The Federal government is incapable of the adequate administration of matters which require so large a measure of local understanding. We must seek every opportunity to retard the expansion of Federal bureaucracy and to place our communities in control of their own destinies . . . Western states have long passed from swaddling clothes and are today more competent to manage much of their affairs than is the Federal government."

**On April 10, 1930,** under authority of Congress, the President appointed a commission to study and report on the conservation and administration of the public domain. A 20-member commission headed by James R. Garfield, who had been Secretary of the Interior under President Theodore Roosevelt, devoted 18 months to the problem.

Its recommendations included approval of additional reservation of "areas important for national defense, reclamation purposes, reservoir sites, national forests, national parks, national monuments, and migratory bird refuges." With the accomplishment of those objectives, the production of forage . . . should be granted to the states that will accept them."

Before granting title to the states, however, a warning was raised by the commission that the states be required to give assurance of wise use of those resources by establishing programs of administration based on uniform federal and state legislation such as would safeguard "the accepted principles of conservation and the reclamation fund."

Bills introduced to make the recommendations effective were given Congressional hearings, but no action was taken. It followed that the report, along with the bills, was shelved. Two years later, on June 28, 1934, the Taylor Grazing Act became law, and for a time the public land question appeared to be settled.

That it is not settled, and that in one form or another it is destined to come up again in the near future, is indicated not only by the Republican plank declaring for citizen ownership to promote highest land use, but also by the recent activities of the Bentsen sub-committee of the House Committee on Interior and Insular Affairs.

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Four hunters are greeted at Clemons Tree Farm by Forester Robert Ramstad who gives them latest information about game, fire conditions and roads

**A** FISHERMAN'S abandoned campfire has turned beautiful Blue River valley into a raging, 700-acre inferno." Thus did *The Portland Oregonian*, on its front page of August 15th, lead off a tragic story, and add another sad chapter to a chronicle of vandalism, hoodlumism and wanton misdeeds that has reached the proportions of a national scandal.

Destruction of farmers' livestock, crops, fences, machinery, gates and property by a minority of sportsmen has become so flagrant that most farms and ranchland today are closed to hunters and fishermen.

Only the vast 25 million acres of tree farms and public lands still allow hunting and fishing within reasonable limits. But even this last

happy hunting ground is threatened with closure.

Every year the bully-boys, the rowdies, the toughs, and the reckless, irresponsible, two-gallon hunting parties inflict unbelievable destruction and damage on private and public forests, logging operations and tree farms.

Loss from hunters' fires alone runs into the millions. But the criminal ruin annually visited on tree farms is equally staggering. Favorite targets of the Daniel Boones while they are "sighting in" their rifles are power and telephone insulators, valuable survey section markers, lookout-tower windows, spark plugs on tractors and equipment, oil drums, water tanks, all manner of signs, tires on cars and trucks—

yes, even human beings. Stealing of power saws, small tools and equipment, including tires, gasoline and food is a violation of every concept of sportsmanship.

What makes all this so senseless and unpardonable is that the tree farmers have long been going out of their way to help sportsmen enjoy their annual vacation in the forests. A survey of 90 tree farms in Oregon, Washington, California and Idaho disclosed the extent to which these tree farmers go to help hunters.

Some tree farmers haul hunters back into game country when roads are not passable for cars. Others provide trucks to haul game out to parked vehicles. Down in Coos County, Oregon, last year one tree farmer set up free coffee stations for cold and wet hunters, provided free maps, even aerial photographs and detailed game information so the nimrods could get their deer and elk.

One Oregon tree farmer turned an unused logging camp into a hunters' headquarters. There was no charge. A vandal gang moved into a cabin, and too lazy to rustle wood, tore siding off the building and started a fire in the middle of a wooden floor. The camp has been closed.



Hauling hunters' game to car is one of many services offered by some Tree Farms



Tree Farms, one of the country's last vestiges of happy hunting ground, may be closed to all sportsmen because of the destructive misdeeds of an irresponsible few



# Hunter's Paradise Imperiled

By ARTHUR W. PRIAULX

Because too many animals hurt the land, Tree Farmers like to see orderly harvest of game

Tree farmers are scratching their heads. They have a real problem.

Under scientific forest management, they have found they are growing two crops—timber and game. A considerable portion of their lands is always ideal game pasture. From the time old growth timber is cut until the new trees grow up and branches join in solid canopy overhead, grass and browse make wildlife meadows throughout growing forest areas.

Big game population has increased by leaps and bounds. Deer, elk and bear have become so plentiful in some areas as to become a nuisance. Some states have even had to hold limited seasons on doe. Nearby farmers lose entire crops and tree farmers see young reproduction eaten and trampled.

The thing to do, the tree farmer has decided, is to join up with sportsman groups and harvest the game in an orderly manner just like the timber. Only during critical fire weather are sportsmen asked to stay out of hazardous areas, or when loggers are actually at work.

But, put a gate across a logging road when loggers are working, when fire danger is high or roads are impassable, and then watch the fun. Hunters see red when they see a gate, even when they understand the reason. They know the cure.

They knock the gate down with their trucks, shoot off the locks, or hack a path around it. A metal, bell-shaped cap over the padlock has cured lock shooting, for ricocheting bullets are no sport. But no cure has been found for the Wahkiakum County, Washington, sport who carries a portable cutting torch and cuts off the railroad iron gate posts. He's been mighty hard to catch.

"Most modern hunters have forgotten how to hunt or are too darned lazy to get out and beat the brush," says wood-hardened Norman Jacobson, chief forester of St. Paul & Tacoma Lumber Company. "They expect to drive their car right up to the buck, kill him, dump him on their fender and haul him off to the deep freeze."

Few hunters take the trouble to

thank the tree farmer, even when he has provided foresters and patrols at his own expense to rescue lost amateurs, pulled their cars out of the mud, put out their forest fires, supplied wood for stove and campfire at camp sites, rustled up drinking water and innumerable other acts of hospitality and generosity.

"Most of the fellows seem to take the outdoors for granted," says Robert Ramstad, resident forester at Clemons tree farm in Grays Harbor County, Washington, America's first tree farm. "They don't realize that all tree farms are private land on which the owners spend millions of dollars annually in taxes, road maintenance, fire protection and management."

Gene Knudson, chief forester for several Willamette valley tree farms



in Oregon, believes sportsmen need to be educated about what constitutes private property. He cited the case of a man who was hauling away a load of water pipe when stopped. The sullen trucker was defiant, claiming he had found the pipe along a road. It took some convincing to make him take the pipe back, and to make him understand that he was on private property and that the pipe had been piled along the private logging road so it was easily available when needed.

In Harney County, Oregon, damage to line fences, gates and buildings in this great cattle country has become such a public disgrace that the Burns Isaac Walton League has posted the entire county, offering a \$50 reward for information leading



Over-populated deer herds kill many trees in their winter quest for food

to the arrest and conviction of vandals.

Douglas County, Oregon, sports groups are looking for an answer. They have promoted a program of picnic and fishing sites along the famed Umpqua River. They talked the county out of old rock quarry roads, even got money from the commissioners to surface the roads so fishermen could have access to the river and to camp sites. Private owners gave or leased river frontage. It was a sportsman's paradise four years ago.

Now the camps are a shambles. Beer cans, broken bottles, trash, junk and litter make the river edge



Not all hunters are as thoughtful as these who stopped by Clemons headquarters to thank the tree farmer for the privilege of hunting

look like a North Korean army had just moved out.

Kindly conservationist Ross Brown of Albany, president of the Oregon Wildlife Federation, intends to put the full force of his organization behind an educational campaign. The maligner, he believes, is not a member of any organized sportsman group, and may be harder to reach, for he is generally a game hog or a fish hog who resents bag limits, rules or anything else that hinders his headlong rush to do just as he damned well pleases.

Joseph W. Smith, president of the Oregon Isaac Walton League, and a great sportsman himself, admits to being plenty worried about all this destruction of property. "The tree farmers and landowners have a case," he warns sports groups, "and it is up to organized sportsmen to make gentlemen out of those who bring discredit on all of us."

Even the game commissions come in for headaches from the hoodlum element. Clark Walsh, assistant director of the Oregon Commission, told of the efforts of his office to open up access roads through farm lands to the Deschutes River in eastern Oregon. One cattleman, who had suffered abuses in the past, was slow to agree to use of his roads. Finally he gave in. Within two weeks some fisherman had shot a tendon on a prize bull calf and the animal had to be destroyed.

The game commission and the Wildlife Federation have done much along educational lines to lick the

problem. The latter group has been working with school children, teaching sound conservation and how sportsmen should treat the outdoors. Several western colleges have conducted conservation workshops for teachers, emphasizing these points.

But it will take a lot of education to re-sell the farmer on the beautiful Nehalem River in Oregon's coastal wildlife paradise, who also succumbed to the game commission's plea for access roads through his land. Some vandal, probably imagining he was a big game hunter, killed a fine heifer, then kindly dumped her in the Nehalem. A pucky fate hung the carcass up on a willow thicket and the very same farmer was ordered by a deputy game commissioner to bury his own dead animal.

An equally depraved act was committed by a hunter on a Washington ranch. A farmer's heifer was killed and the hunter stripped off some choice steaks, left the rest for the coyotes.

Even granting that some of these depredations are done by thieves and bully boys who slip into tree farms disguised as hunters, it's pretty hard to laugh this one off. Last year, the west suffered its worst protracted dry spell in half a century. In the face of critical fire weather, western governors were reluctant to open deer season until weather conditions improved.

Governor Douglas McKay of Oregon, finally yielding to pressure from sportsmen, opened the deer season



These two young hunters with their first buck accept hospitality of Tree Farmers who help them haul game out to their automobile

on schedule, but only after the strongest kind of warning through newspapers and radio stations on the fire danger. And the hunters responded with a rousing 52 campfires left to cause forest fires on the Northwest District of Oregon alone on the very first day of hunting season. Hundreds more similar instances occurred throughout the west.

Tree farmers are naturally reluctant to open up their lands to such thoughtless and wanton morons. But how do you separate the vandal from the sportsman? That is a tough one to solve. How do you know which man will leave a campfire burning, or will flip a cigarette into a hillside and wipe out a half century of forest growth? How do you know which one will steal?

What formula do you apply to determine which man of many you allow on your land will show his appreciation by destroying your property, by tinkering with a \$34,000 complex machine, or helping himself to a tractor to pull his car out of the mud without checking to see that you had drained water and oil for winter storage?

The problem is not isolated to West Coast tree farms. Western pine landowners in Idaho, California, Arizona and throughout the timbered west shudder when deer season comes around and get braced for the shock. Southern pine tree farmers and their brothers in the

northeast and lake states all have troubles of varying degree and of a weird variety.

Certainly, the answer is education, but who is to do the educating? Is it to be the tree farmer, who is good sport enough to go along year after year and suffer all manner of indignities in exchange for his generosity and hospitality? Should it be the sportsmen groups, or are they only interested in full game bags, as even some of their own members jokingly suggest?

Maybe the answer lies in better law enforcement—fines and jail sentences when men carelessly start a forest fire.

There has to be a satisfactory solution, or soon the last happy hunting grounds will be closed and "NO

HUNTING" signs will multiply like the big game on tree farms.

It seems to this writer that the sportsmen have a man-sized monster in their laps. What do you do with monsters? I know what tree farmers would like to do on occasion when they go to an empty, bullet-riddled water tank; find gates smashed; dirt roads, intended only for summer travel, damaged by cars of hunters too lazy to walk; cabins filthy; windows shot from trucks; locks jammed with wire; buildings demolished; and, worst of all, hunters' fires spreading black ruin and despair.

The tree farmer and his neighboring crop farmers have a case the sportsmen must recognize. We've licked worse problems than this.



This deer perished, and much timber burned when hunter left fire unattended

By W. F. McCULLOCH

# The



Bill Dyche's famous Algoma Incline near Klamath Falls. Note loaded car coming down, hauling empty up hill. No car was ever lost on this grade



Closeup of the first skyline "carriage" which Dyche helped build in 1899. The old-time logger in photo is unidentified



Bill Dyche, left, and his Algoma Roll-Out Hook, an invention used to roll over logs so limbs could be whacked off under side



William K. Dyche, a tough-barked Klamath Falls, Oregon logger, was first in many early operations taken for granted in today's high-ball logging

## "Firsttest" Logger

**K**LAMATH FALLS, Oregon, lies in the heart of the pine and sagebrush country on the dry east side of the Cascades. In this region, ponderosa pine logging is big business and pine loggers are big men. One of the best known and best liked is William K. Dyche, logger for over half a century, a regular Paul Bunyan.

Bill has followed the timber game in a lot of different camps, and in many places he has taken a hand in important logging developments. He's a tough-barked logger who was "firsttest" in many of the operations which are taken for granted in high-ball logging today.

Those who visit Bill at Klamath Falls and open up the subject of logging at once are in the thick of it. Hard working machines, big logs, sweating men, and all the glory of big-time logging come alive as the years roll back in the telling of tales.

There's the swish of ties sailing down the flume in Wyoming; the hiss and puff of the ancient Dolbeer spool donkey at Bridal Veil; the big wheels squeaking across the sagebrush country in a soft gray cloud of dust; and the clank and chatter of Algoma's cats putting out more logs per day than any man before or since.

Bill has preserved much of this in a set of rare photos going back to the 1890's. His memory is as vivid as his pictures, and he gives gener-

ously of his half-century store of logging knowledge.

Dyche served with Teddy Roosevelt's Rough Riders in Cuba, and on his way home after discharge, his transportation ran out in North Dakota. Nothing plushy for veterans in those days. He was dumped off the train at Minot in weather 20 below zero, and found himself on the wind-swept station platform with only 20 cents in his pocket. Scouting around for a job, he heard that construction crews were being recruited to grade a new Idaho railroad running up-river from Weiser to New Meadows. Bill shipped out to Idaho.

After geeing and hawing for some time as a teamster on this job, he lit out for Oregon and caught on with the mill crew of the Bridal Veil Lumber Company, east of Portland. Though he was a mill hand, he spent all his spare time in the woods. The logging operation of the company was just starting to use steam, and Bill was fascinated by the little old spool donkey engines fussing and fuming at their work.

These tiny iron "teakettles" were feeble contraptions, but the idea back of them, moving logs by machinery, was tremendous. Up till the time of this Dolbeer steam donkey engine, northwest logging was a go-easy proposition geared to the laziest grunting bull in the team. The engines were so small that a horse kept them supplied with water packed to



William K. Dyche at the height of his career as superintendent for the Algoma Lumber Co. of Klamath Falls, Oregon

the landing in saddle bags, but they were first with the big idea of steam logging.

At Bridal Veil, Bill began to pack away the logging know-how which he later used so well; and he had a hand in an important "first" in the logging game. At one point in the woods, big fir and "larch" logs had to be brought across a deep canyon and there was a good deal of head-scratching about the best way to handle them. Bob Barr, the foreman, solved the difficulty. He said he could get those logs across if the company would give him a free hand.

The result, slowly cobbled together after a lot of experimenting and a lot of sweat, was the first skyline (an overhead cable anchored at  
(Turn to page 32)

# Conservation on Parade

New-type exhibits in New York's American Museum of Natural History are depicting and interpreting the outdoors scene for millions of visitors yearly



By HENRY S. KERNAN

THE wise use of natural resources has become a critical issue of our times. All over the country a broader understanding of the land resource is spreading among the citizens whose votes and actions determine whether these springs of prosperity will dry up and disappear or will continue as our most precious heritage.

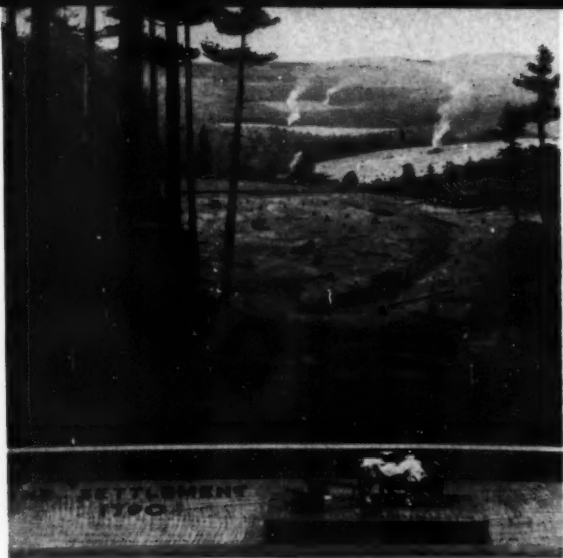
To educate millions of visitors toward wiser attitudes and richer lives, the American Museum of Natural History in New York has recently been preparing a new type of exhibit. Fast disappearing are the racks of glass cases which collectors have been filling by yanking specimens from their environments. In their places are exhibits which present and interpret, with painstaking exactitude, the natural order of the outdoors so vividly that a stream of visitors has become a year-round deluge.

The latest project of the kind is the Felix M. Warburg Memorial Hall, given by a trustee in memory of his father.

The Warburg Hall exhibits were opened in the spring of 1951. They were under construction in the Museum's studios for more than seven years and result from the combined skills of many specialists. The unifying supervision was done by the department of botany and forestry and its head, Dr. Henry K. Svenson.

While searching for an area offering a variety of natural features, Dr. Svenson remembered a field trip which had taken him, during his student days at Harvard, to the village





of Pine Plains in Dutchess County, New York. Here, between the Hudson River and Connecticut, Mt. Stissing raises a core of gneiss to a height of 1500 feet, well above the surrounding sedimentary rocks.

At the base are three small lakes whose waters join to form the Wappinger Creek. On each side extend landscapes of low ridges and shallow valleys whose patterns of field, farm and woods reflect the soil-making capacities of the underlying rocks.

The first and perhaps most striking panorama at the exhibit is that of Stissing pond and mountain. Each plant and animal is placed with perfect skill to blend with the painted background which captures once and for all the magic of an October landscape.

The scene of Stissing mountain is exceptional in depicting a single time and place. The other 19 exhibits stress the unending change to which the land and its multifarious inhabitants are subject.

First comes geology—how aeons ago the same mountain top was at the bottom of an inland sea and was being covered with sedimentary rocks. Later they were raised, folded, and worn through ages of wind, water and ice. Giant reptiles came and went; glaciers flowed back and forth on a time schedule measured in thousands of centuries. The latest retreated a mere 10,000 years ago and left men in happy possession of fertile fields and a temperate climate.

The varieties of change are as unending as the change itself.

The slow shift from pond to swamp to meadow is the subject of another panorama. There follow

others to show the succession of grasses, shrubs and trees upon abandoned agricultural land—a very prominent feature of the landscape in most farming districts of eastern United States.

The final and, in a sense, the culminating series, are those which trace the history of land use around Pine Plains. After the light-footed, dark-eyed Mohicans had been replaced by the Dutch and Yankee colonists, the primeval cover receded to a few knolls and swamps.

The high tide was reached 110 years ago, and was followed by decades of rural decay and abandonment. Now agriculture, adjusted to using only the best lands and to maintaining them for a permanent dairy industry, is prosperous once more. Idle land is being taken up by summer visitors from cities whose desire to participate in rural life is a sure sign that, as a nation, we have not forgotten our pioneer forebears.

However, with an exhibit of modern practice, the work of the Museum is by no means ended. Plans are already made and in part carried out for a hall of forestry which will illustrate by the same method the country's most important timber types. A Douglasfir forest of Washington's Olympics, an Adirondack lake with groves of sombre spruce, and a piney wood from Georgia's Coastal Plain are, among others, under way.

Thus are presented the lessons of conservation to the visitors of all ages and interests which the Museum, through a reputation for scientific excellence, attracts from all over the world.



# A Fowl Deal

## ... OR A FLIGHT OF FANCY

By JOE TARDY

HEADING out of town along the uneven ties of the railroad track, I looked back over my shoulder and called, "Go boil your heads." I had to run, then. Half a mile beyond the town I paused, out of breath. I was also out of everything else.

Looking around at the cold hard ground I shivered; another night on ground like this and I might even go to work. I shook uncontrollably at the thought.

Off to my left I noticed a flight of ducks settling on the telephone wires. I'd never known ducks to do that before, but figured maybe they'd been run out of the marsh by hunters. They looked snug and comfortable and on impulse I decided to join them. I leaped for the lower cleat on the nearest pole and shinnied up, then stretched out full-length across the wires and relaxed. The duck on my left tried to boost me over but I boosted him right back. I wasn't in the mood to take any sass from a duck.

I awakened just before sun-up with the first raucous quacks of my bedfellows. My neck ached painfully from having it tucked under an armpit all night; I rolled my head around vigorously and stretched.

"I'm stiff," I said aloud.

My companion on my left, a hefty fellow, looked at me suspiciously and said, "I'm Homer." He quacked at his little joke, then asked, "Speak any Duck?"

"No," I replied. "Just United States."

"That ain't United States you're

speakin' now, Junior. It's pure Duck."

When he saw he'd stopped me he got more friendly. "Name's Homer," he repeated.

"José here," I said. "Glad to know you."

Homer extracted a louse from under his wing and guzzled it with a grimace. "Pesky things," he said.

"Yeah," I agreed.

"You got 'em too?"

"Well . . ." I scratched in the same place he was scratching. "Same thing, I guess."

"Hey! Can the yap down there!"

It was the voice of authority coming from the head of the line.

"Who's that?" I whispered to Homer.

"Head Duck. Don't never cross him."

"Okay." Taking my cue from my neighbors, I preened myself, bit under my armpits and flexed my muscles. Homer moved over a bit away from the rest of his friends and jerked his head for me to follow. Moving cautiously, I joined him.

"Now, maybe we can talk without some jerk buttin' in," said Homer. He flashed a wicked glance down the line toward Head Duck, who ignored him.

A thought struck me. "Homer, how come I can speak Duck?"

"Well . . . come to think of it I never sawed no one before who could do it."

"You mean 'saw anyone!'"

Homer looked at me pityingly. "You better brush up on your Duck." He thought earnestly for a

moment, then said, "Ever do any flying?"

"I was in the Air Force."

"That explains it then. When we go up in the spring and down in the fall we cross, re-cross and criss-cross your airways beams. Fouls them all up."

"What's that got to do with learning Duck?"

"Simple, Junior. Ain't you never heard of cross-mitigation? Taught in all the best Duck schools. That's how we learn the youngsters to navigate. Fly 'em back and forth across the beams until they can distinguish between Civil Airways and Duck. We got a different system."

"Oh?"

"Sure. That's where you picked up your Duck. Conflicting beams, you know. Didn't you never follow a steady hum, inbound, till you hit a perfect cone, then make a nice let-down only to find yourself over a nice lake, miles from anywhere?"

"Heck yes!" I exploded. "Don't tell me . . ."

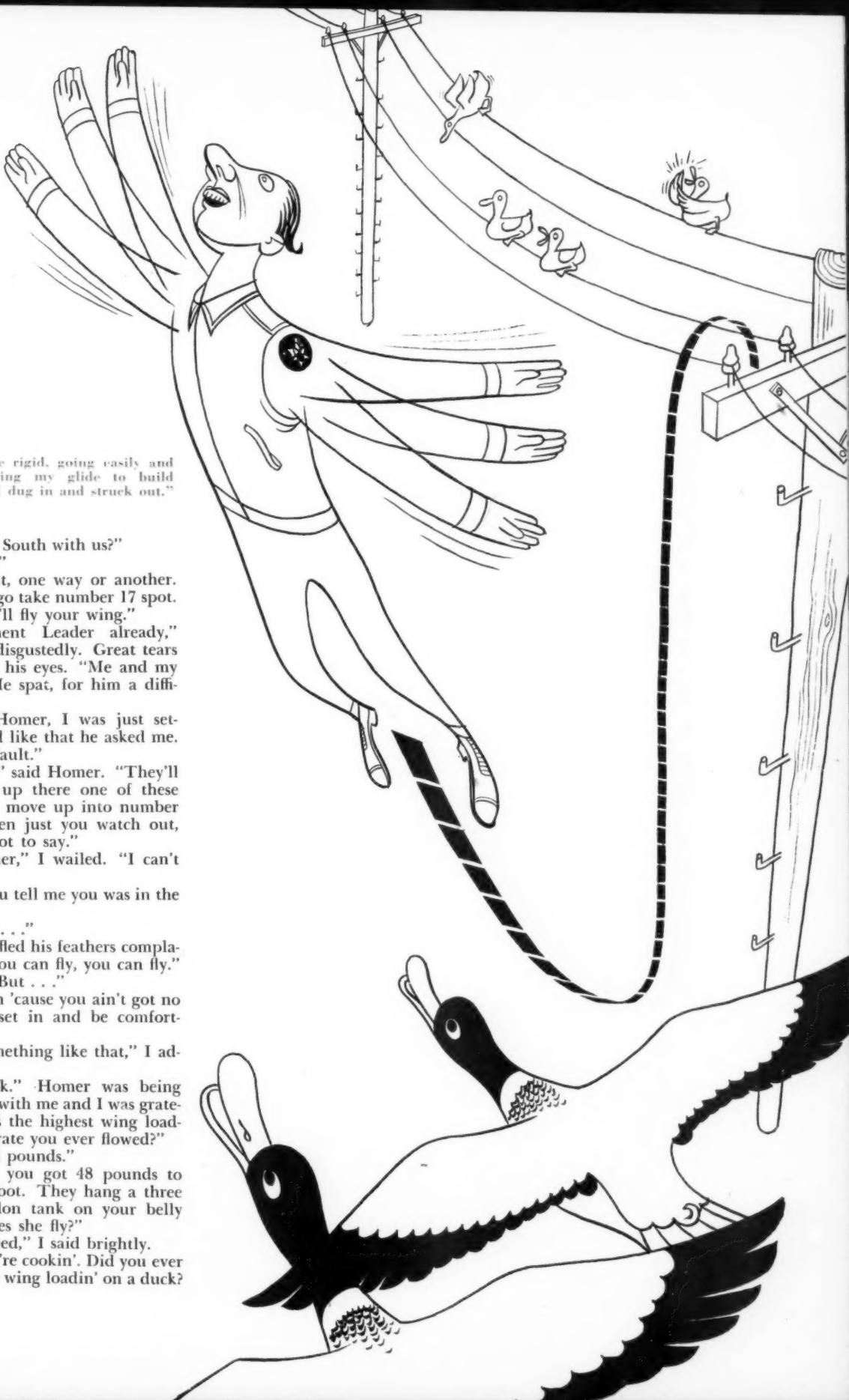
"Reet." He picked a louse from his tail and gargled it throatily. "You let down on a Duck beam. Happens all the time. Your senses get acute; your mind won't accept your steady, loud beam anymore and then ours comes in clear. Code's in Duck. Your subconscious picked it all up."

I wondered if any other airplane jockeys could speak Duck.

"Hey, you down there." It was Head Duck, imperiously.

I hit a horizontal brace and quacked, "Yes sir?"





"My arms were rigid, going easily and gently, stretching my glide to build up speed . . . I dug in and struck out."

"You goin' South with us?"

"Well . . ."

"Spit it out, one way or another. You want to go take number 17 spot. Homer there'll fly your wing."

"An Element Leader already," said Homer disgustedly. Great tears welled up in his eyes. "Me and my seniority." He spat, for him a difficult feat.

"Honest, Homer, I was just setting here and like that he asked me. It ain't my fault."

"Forget it," said Homer. "They'll git ol' Crip up there one of these days and I'll move up into number 15 spot. Then just you watch out, that's all I got to say."

"But Homer," I wailed. "I can't fly."

"Didn't you tell me you was in the Air Force?"

"Yes. But . . ."

Homer ruffled his feathers complacently. "If you can fly, you can fly."

"I know. But . . ."

"You mean 'cause you ain't got no airplane to set in and be comfortable?"

"Well, something like that," I admitted.

"Well look." Homer was being very patient with me and I was grateful. "What's the highest wing loadin' on any crate you ever flowed?"

"About 48 pounds."

"Okay, so you got 48 pounds to the square foot. They hang a three hunnert gallon tank on your belly and how does she fly?"

"More speed," I said brightly.

"Now you're cookin'. Did you ever compute the wing loadin' on a duck?"

Brother. No duck never lived what's got a higher wing loadin' than what I got. Six hunnert and ninety-four pounds to the square foot."

I gasped. On the face of it, it was mathematically impossible for Homer to fly.

"I'm flabbergasted," I said.

"I thought your name was José."

"Yes. Yes it is. But . . ."

"Look," said Homer. Really, I was grateful for his patience. He was missing part of his warm-up on account of me. "Speed's the answer. When we leave, dive. Dive, get it? Don't just start flappin'. That won't get you nowheres. Dive till you get up speed, even if you're almost on the ground; then strike out, strong and easy. One-twenty's best climbing speed. Turn inside Reginald, there . . . you'll be on his wing . . . and get in formation. Head Duck



gets teed off about things like that. Crabby old coot.

"And keep out of Reggie's wash. Next to me he's packin' the highest wing loadin' in the crowd. Never knows when to quit eatin'!"

"How vulgar," said Reggie.

We snapped to attention as Head Duck quacked out, "Flight, check in. Oswald, spot two."

"Roger, sir."

"Sidney, spot three."

"Roger, sir."

"Newton-Royce, spot four . . ." Right down the line he went, calling each Element Leader and wing man in turn. When he called out, "José, spot one-seven," I quacked out "Hup, sir," crisp and strong. Right on the old ball.

Homer, flying the tail-end Charlie spot, got peeved again, humiliated at being the last to check in, but I gave him a slow wink, jerked my head toward Head Duck and spat expressively. Homer raised his eyelids from the bottom, in pleased embarrassment.

Head Duck briefed us. "Now look, youse guys. I don't want to see no more of that sloppy flyin' like youse pulled off yestiddy. See? Next time one of youse birds leaves the formation to go sight seein', just keep a-goin. See? I ain't a-gonna risk my tail no more to come get you when you start dodgin' buckshot flak . . . besides, youse knows better'n to be sucked in by decoys.

"And on turns, cut inside. I mean inside. Get it? And when I say inside I mean Sidney, there. You snafu 14 elements every time you follow in trail like a buzzard 'stead of cuttin' in an' holdin' your position.

"That goes for the rest of youse birds, too. It ain't just Sidney, here." He was trying to cheer Sidney up. Poor Sidney was sulking, his head under a wing. You're really embarrassed when you'll do that, after a warm-up. "Them wings ain't takin' youse for no ride. Get me? You're flyin' them wings. See what I mean? Okay, here we go."

Head Duck leaned far over and spread his wings. He dropped easily, stretching his glide into some real speed, but still not flapping too hard. Sure enough, two feet off the ground when Head Duck was moving like the XF-1 he reached out and bit into the air, hard. In a moment he was climbing easily.

One by one the others followed and as they came toward me I leaned back and laughed. Who did Homer think he was kidding? Sure, I could fly. But give me a . . .

"Woweeee . . ." I yelled as Homer plucked the front wire from under me, and I was forced to spring with my feet. That old Air Force training is a great thing. Makes you quick. I did, on the instant, everything that I had been told by Homer. My arms were rigid, going easily and gently, stretching my glide to build up speed. Three feet off the ground, at one-forty, I dug in and struck out after Reggie. I wondered how I knew I was doing one-forty. I'd have to ask Homer about that. Remem-

bering what Head Duck had said about stragglers, I cut inside, hard, and brought up in close trail behind Reginald.

Busy as I was, I felt sorry for poor Sidney. After the chewin' out he got he was still unable to turn with Head Duck and Head Duck gave him a bad time. But the rest of us sympathized with Sidney.

"Fulla buckshot," whispered Homer on my wing. "Mushes on them steep turns."

I noticed the shot-ruffled trailing edges of Homer's wings. No wonder he had such a high wing loading.

We were flying quite low. When I took time out to look around I saw that we were approaching a wide, marshy lake. I hoped Head Duck knew what he was doing. I realized that I was dropping back out of position and poured the coal on to catch up. Head Duck looked around before I got quite there.

"Let's close it up," he called loudly.

"Ah, stow it," I muttered under my breath.

"What's that? What's that?"

"I said my monkey died."

Several of my neighbors quacked appreciatively and Home said right out loud, "You ask silly questions, you get silly answers."

Head Duck scowled menacingly and set a withering pace. We had to shut up, then. But in his anger he led us right over a duck blind and things happened fast. A burst of shot stripped off half of Head Duck's tail feathers; on impulse I cut hard right and Auto Duck Intercom informed the Flight. I found myself leading the gang through standard flak evasion and Head Duck was having a time of it keeping up at all. I got some nice quacks from the crowd. I set the flight at maximum-continuous and held it for an hour. When I looked back Head Duck was just a duck on the horizon.

At sundown I was beat and glad when Homer suggested that we land in a lush green cornfield below. On his advice I made several passes at the field, making sure that no hunters were about. Again and again I made a fake final, dodging aside at the last instant. I wished Homer would give me the word to land. Fun was fun, but I couldn't keep this sort of thing up much longer.

The gang fussed when I threw them into a single echelon to the right instead of the standard V but I paid no heed. I was boss. But I had a rough time on peel-off. I

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# MANAGING YOUR WOODLAND

*... In the Appalachians*

## Harvesting the Crop

By H. D. BENNETT

**A**NY job is most efficiently accomplished through the use of the right tools best adapted to the work at hand. In a previous article we explained the first step in carrying out a thinning operation—how to select the potential crop trees and how to improve the growing conditions for these trees by cutting out other trees in the stand.

Timber is a crop just like any other product of the farm. To make the most of this crop the trees must be efficiently and economically handled and the products put to the best market. Most of the trees to be cut in this operation are small, usually from four to eight inches in diameter. Therefore, small tools and light equipment will do the job.

Also since we are dealing with the thinning operation in the timber stands of the Appalachian hardwood region where steep slopes and rough ground are commonly found, our operating methods and equipment must take this into consideration.

In harvesting this farm crop, six steps must be followed:

(1) Cutting, limbing and topping the trees; (2) Skidding the trees to a landing; (3) Construction of a

landing; (4) Cutting the trees into marketable products; (5) Loading the products on a truck; (6) Hauling to market.

If the woodlot owner can carry out all these steps himself, he will realize the most profit from his operation. If he does not have a truck properly equipped and licensed to haul the products, he can at least carry out the first four steps.

*Cutting, limbing and topping.* The single or double bitted ax and one of three types of saws, the two-man crosscut, the hand bow saw and the one-man power saw, are available for this operation. Most farmers are familiar with the two-man crosscut, so we will confine our story to the hand bow saw and one-man power saw, which are far better for this type of work.

The hand bow saw is made in two types, the two-man saw with adjustable frame and the one-man saw with fixed frame. The saw blade is one to one and a half inches wide and has four cutting teeth to each raker. It is fitted in a frame of high quality charcoal steel, and held un-

der high tension in order to insure true and fast cutting.

In addition to its speed of cutting, the blade is not pinched in the cut, and no wedging or prying is necessary. In using the saw, fastest cutting is obtained with a "rocking" motion; that is, as you push the saw away from you raise the end nearest you, as you pull the saw back lower the end of the saw. In this way the saw cuts in both directions and very fast action is obtained.

The saw blade is filed with special tools which may be obtained with instructions on purchase of the saw. Filing is very simple and unless foreign material is encountered in cutting only occasional filing is necessary.

The one-man power saw is well adapted to this type of operation, and can be used to advantage on all cutting operations if the volume of material to be removed warrants its purchase. Like any piece of power equipment, it must be properly used and cared for to give best results. Oiling and greasing instructions must be carefully followed, the chain properly sharpened and oper-

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**Landing should be constructed on level ground or gentle slope and should be as near the woods as is practical**

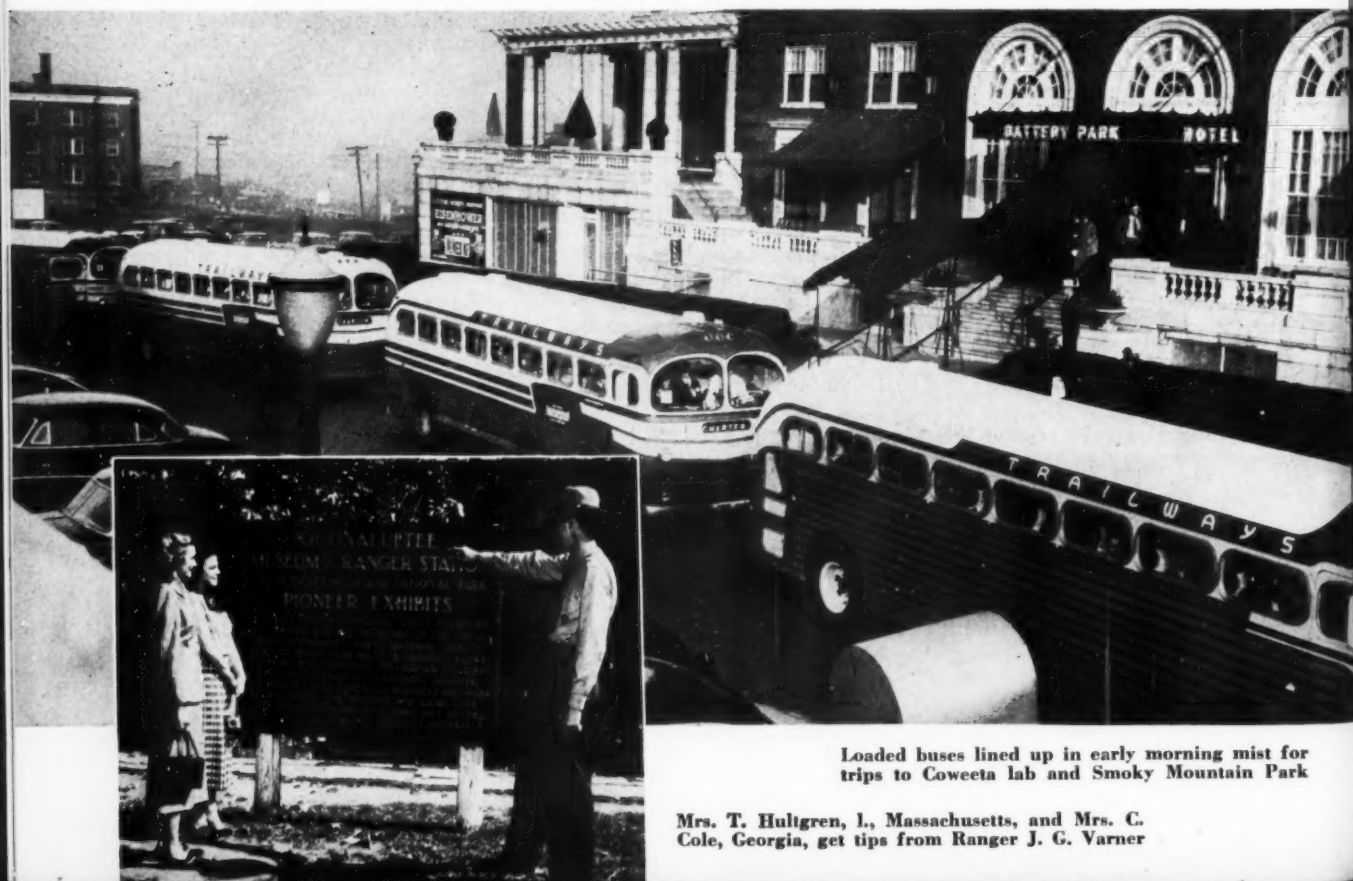
**Filing instructions obtained on purchase of the saw should be followed closely to insure proper cutting**





Big "run" on the registration desk came Monday about noon when scores of late arriving delegates rushed to sign up. Total attendance exceeded the 500-mark

## Accent on Asheville!



Loaded buses lined up in early morning mist for trips to Coweeta lab and Smoky Mountain Park

Mrs. T. Hultgren, l., Massachusetts, and Mrs. C. Cole, Georgia, get tips from Ranger J. G. Varner



**T**AKE a bow, Asheville. You were a splendid host and the 500 conservationists from 33 states, the District of Columbia and Venezuela who were your guests October 12-15 during The American Forestry Association's 77th annual convention enjoyed and appreciated your hospitality. They hope to call again soon.

The unquestioned success of the meeting also was due in large part to the promotion and cooperation of the North Carolina Forestry Association, which met jointly with AFA. A program built around the theme "Forests and Water" was instructive and well-executed.

With perfect weather prevailing, convention delegates began trickling into the Great Smoky Mountain area two or three days before the Sunday, October 12, registration date. By late Sunday afternoon nearly 100 had signed up for the four days of speeches, panels, luncheons, tours and, of course, the Monday night banquet. By Monday the total had reached nearly 500.

Business sessions of the convention were formally opened Monday morning with Don P. Johnston, AFA president presiding.

First of three speakers on the morning agenda was Dr. Richard E. McArdle, Chief of the U. S. Forest Service. Stressing the convention theme, McArdle said the future industrial growth of many cities will depend on whether additional supplies of water can be made available. He quoted the National Securities Resources Board as saying the country's total needs for water may double within a few years.

He urged that an effort be made to convince the public that good land management and good watershed management are "one and the same thing." He said one of the best ways to spread the "message" is through the publications of conservation organizations like the AFA.

The second Monday morning speaker was Capt. I. F. Eldredge of New Orleans, consulting forester and former U. S. Forest Service official. He described the South as "the largest, the richest, most diversified and fastest growing field of forestry practice in the nation."

The only limit to the future expansion of the South, he said, "is the capacity of its soil to produce wood under intensive management and the ability of a sane and peaceful world to absorb its products."

Norman A. Cocke, Charlotte, North Carolina, vice-president of the



More than 400 conservationists crowded Asheville civic auditorium for joint American Forestry Association-North Carolina Forestry Association banquet. Program featured door prizes, principal speech, awards



Monday panel participants, l. to r., G. R. Ross, C. A. Connaughton, L. E. Partain (moderator), R. W. Wolcott (presiding at session), B. C. Browning, Dr. H. A. Curtis, C. J. Blades. Inset, R. E. McArdle, a morning speaker

Chatting in lobby of Battery Park Hotel, convention headquarters, are l. to r., Don P. Johnston, AFA president; D. C. Everest, immediate past president of AFA; and AFA Award Winner Gov. Herman E. Talmadge and wife of Georgia



Efficient assembly line of Cherokee home economics students serves tasty lunch to visitors at Indian school on reservation



Duke Power Company, climaxed the morning session. He called for a program of educating the people of this country "not only of the dangers of wasteful use of their lands but of the profits that will arise if conservation practices are adhered to."



Oldtimers. L. C. Hassinger, left, Bristol, Tenn., joined AFA 51 years ago. Royal S. Kellogg, Palmetto, Fla., joined in 1900

He also cited the need for more and more water, "pure, fresh and as uncontaminated as possible."

A panel discussion featured the Monday afternoon session. Speakers included: Charles A. Connaughton, Atlanta, Georgia, regional forester for the U. S. Forest Service; Carlton J. Blades, Charlotte, North Carolina, chief forester for the Duke Power Company; George R. Ross, Raleigh, director of the North Carolina Department of Conservation and Development; Bryce C. Browning, New Philadelphia, Ohio, secretary-treasurer of the Muskingum Watershed Conservancy District; and Dr. Harry A. Curtis, Knoxville, Tennessee, a director of the Tennessee Valley Authority. Lloyd E. Partain, Philadelphia, farm market director for *Country Gentleman* magazine, was moderator.

Connaughton discussed the Co-weeta Hydrologic Laboratory, near Franklin, which convention delegates toured Tuesday.

He said studies at the laboratory have shown that "grazing should be excluded from the Southern Appalachian woods . . . and farming as practiced on steep mountain slopes is very unfavorable to water quality and control."

Blades pointed out that water is necessary to the future of the power industry because it is needed in the direct production of power and "without sufficient water there would be no industrial or agricultural prosperity which provides the potential power customers."

Ross urged creation of river basin or watershed authorities in North Carolina under a general enabling act of the Legislature. He said such

At tea, Mrs. R. E. McArdle pouring, are l. to r., Mrs. Robert Willey, Mrs. Don P. Johnston, Mrs. Anson Lendenmuth, Mrs. L. B. Anderson, Mrs. D. J. Morriss, Mrs. A. C. Shaw. Hostesses were Mrs. V. Rhoades, Mrs. Walter J. Damtoft





The weather was perfect. Delegates sun themselves in near 80-degree temperature



On 15-minute radio broadcast over station WWNC, local Columbia Broadcasting System outlet, were l. to r., Wade Lucas, Don P. Johnston and G. H. Collingwood. Subject, naturally, was forestry

authorities would include representatives of county commissioners in each county, the board of aldermen in each incorporated area and public representatives of agriculture and commerce.

Browning described the Muskingum project for flood control and water management. He said commerce and industry are showing a "renewed interest" in the area included in the Muskingum district because good watershed management reflects itself in other enterprises.

Dr. Curtis, discussing the Tennessee Valley Authority, told of the progress made throughout the area in conserving forest and water resources and in controlling floods. He cited detailed reports of the various departments of the Authority as

*(Turn to page 30)*



Six of 52 student guests. Rear, l. to r.: D. Smith, Auburn; F. Davis, Duke; G. Brock, Alabama; R. Ferguson, West Virginia U.; Seated, J. F. Renshaw (arrangements); B. Womack, Georgia U.; O. Tissud, N. C. State



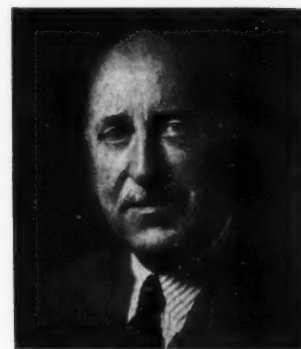
Col. William B. Greeley, left, gets chuckle out of awarding "Tree Farms" certificate to Reuben B. Robertson, Champion head

Indian artifacts were popular attraction for convention delegates who took 230-mile bus tour of the Coweeta Hydrologic Laboratory



# AFA's

## Conservation Awards of '52



W. S. Rosecrans

**S**IGNAL achievements in the field of conservation were recognized and rewarded at AFA's annual banquet October 13 when the Association presented its coveted Conservation Awards for 1952 to five individuals who have done outstanding jobs in furthering perpetuation of our renewable natural resources.

The five award winners and the particular phase of conservation in which their accomplishments were judged eminent include: W. S. Rosecrans, Los Angeles, California, chairman of the California Board of Forestry, public service; Governor Herman E. Talmadge of Georgia, public service; Ovid Butler, Chevy Chase, Maryland, editor-writer-forester, education; Howard C. Fetterolf, chief of Agricultural education for the state of Pennsylvania, education; and Ernest L. Lurth, president of the Angelina County Lumber Company, Keltys, and Southland Paper Mills, Inc., Herty, Texas.

The awards, walnut plaques burned with the recipients' names and inscribed: "In recognition of outstanding service in the conservation of American resources of soil, water and forests," were presented by the Honorable Watkins M. Abbitt, U. S. representative from Virginia, as a highlight of the Association's four-day joint meeting with the North Carolina Forestry Association at Asheville, North Carolina.

Presentation of the highly-prized awards was begun in 1948 when AFA honored Arthur Capper, the late Senator from Kansas, as the nation's

outstanding conservationist. Since then 20 other individuals have been so honored for their significant roles in conservation.

In selecting Mr. Rosecrans as one of the two standout candidates from the field of public service, AFA chose an executive with 30 years' experience as a state and national conservation leader. During those three decades he has been a prime mover in the organization or direction of many groups in agriculture, forestry, flood control, watershed management and education.

He organized forestry work in the Los Angeles Chamber of Commerce, developed the Conservation Association of Southern California and is now serving in his ninth year as chairman of the California Board of Forestry. As head of this state group he has initiated and developed one of the most comprehensive forestry programs ever attempted by any state.

Mr. Rosecrans, for eight years president of AFA (1941-49) and now an honorary vice-president, is president of the Conservation Association of Southern California, a director of the Forest Genetics Research Foundation, an honorary member of the Society of American Foresters and a member of the Advisory Council of the U. S. Forest Service.

In addition to being president of several business enterprises bearing his name, Mr. Rosecrans also is president or a director of many civic organizations and scientific societies. AFA's choice for the other award in the field of public service is a man who has utilized the powers of a

high political office to initiate and implement an outstanding state conservation program. Through speeches, radio and press interviews and public statements, Governor Herman E. Talmadge of Georgia has stimulated a statewide interest in natural resources, emphasizing soils, forestry, wildlife and water conservation. Rallying all factions of the General Assembly behind him, he has spearheaded legislation and authorized financial outlays that have made Georgia one of the most conservation-conscious states in the South.

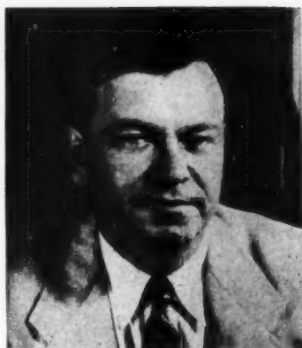
Governor Talmadge has supported a statewide forest fire control bill, and as a result of this support Georgia rapidly is being covered by organized fire protection. His interest and support also have helped to make Georgia one of the foremost tree planting states in the nation.

The Governor worked actively for passage of a bill creating a State Board of Registration for Foresters, making Georgia the first state in the nation to recognize forestry as a profession with the same registration requirements as the law, medicine and other professions.

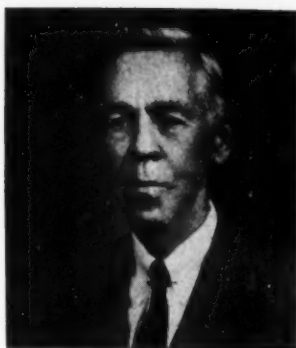
Governor Talmadge publishes a weekly paper, *The Statesman*, in which considerable space is devoted to conservation and forestry. He closely cooperates with federal agencies in joint forestry, fire control, tree planting and woodland management programs and has been a leader among southern governors in regional conservation projects.

Ovid Butler, recipient of an AFA award for meritorious service in the field of conservation education, is among the nation's most distinguished foresters and is recognized as one of the foremost observers and interpreters of the national resources scene.





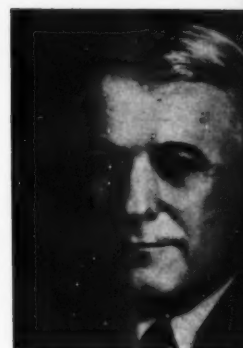
Gov. Herman E. Talmadge



Ovid Butler



Howard C. Fetterolf



Ernest L. Kurth

Holding official positions with The American Forestry Association from 1922 when he became executive director and editor of the magazine, *AMERICAN FORESTS*, until 1948 when he was named executive director emeritus, Mr. Butler led this organization to educational achievements without parallel in its 77-year history.

Among his many accomplishments was the launching in the late 1920's of an attack on the southern custom of woods burning. He raised \$150,000 to translate this program into action and initiated the three-year Southern Forestry Educational Project which gave tremendous stimulus to state forestry and subsequent state programs of forest fire protection in the South.

In the late 1930's his on-the-ground investigation and campaign of public enlightenment were largely responsible for bringing the valuable revested O and C lands in Oregon under forest management. A nationwide fact-finding survey instigated by Mr. Butler in 1943 revealed to the American people the condition of their forest resources after the heavy drain of World War II and was a factor in determining post-war forestry trends.

As editor and later editor-in-chief of *AMERICAN FORESTS*, Mr. Butler edited a number of Association books which helped popularize the conservation concept. In 1950 he headed a committee of experts which later published a report titled *The Progress of American Forestry—1945-1950*.

Howard C. Fetterolf, winner of the other award in the field of education, has been in charge of state vocational agricultural work in Pennsylvania since its beginning—a period of more than 35 years. In this

capacity he has been primarily interested in the training of rural boys in the field of technical agriculture. As a result of Mr. Fetterolf's personal interest, a major phase of this technical instruction has been in the field of soil, water and forest conservation.

Mr. Fetterolf has made arrangements with the State Department of Forests and Waters to designate a full-time representative to work with the vocational agriculture instructors of Pennsylvania in the stimulation of forestry education through vocational agricultural instruction.

The Pennsylvania educator is advisor of the Pennsylvania State Association of Future Farmers of America and has served on the National Board of Trustees and National Advisory Council of FFA. He is a strong advocate of soil conservation districts in Pennsylvania. Under his leadership the teachers of vocational agriculture have been active in the organization of these districts. He served as president of the American Vocational Association in 1951.

In 1948 the U. S. Army chose Mr. Fetterolf as a member of the American Educational Commission to Korea, and in 1949 he spent several months in Germany as a consultant in agricultural education, also under sponsorship of the Army.

Ernest L. Kurth, outstanding candidate from the field of industry, is a leader not only in his native Texas but in the nation as well. During his 36 years of leadership, the Angelina County Lumber Company has become a model in forest management practices. Scientific conservation was undertaken by Mr. Kurth's company in 1922 when he initiated forest fire prevention and control programs and eliminated the practice on company lands of leaving high pine stumps. Much of this early work was

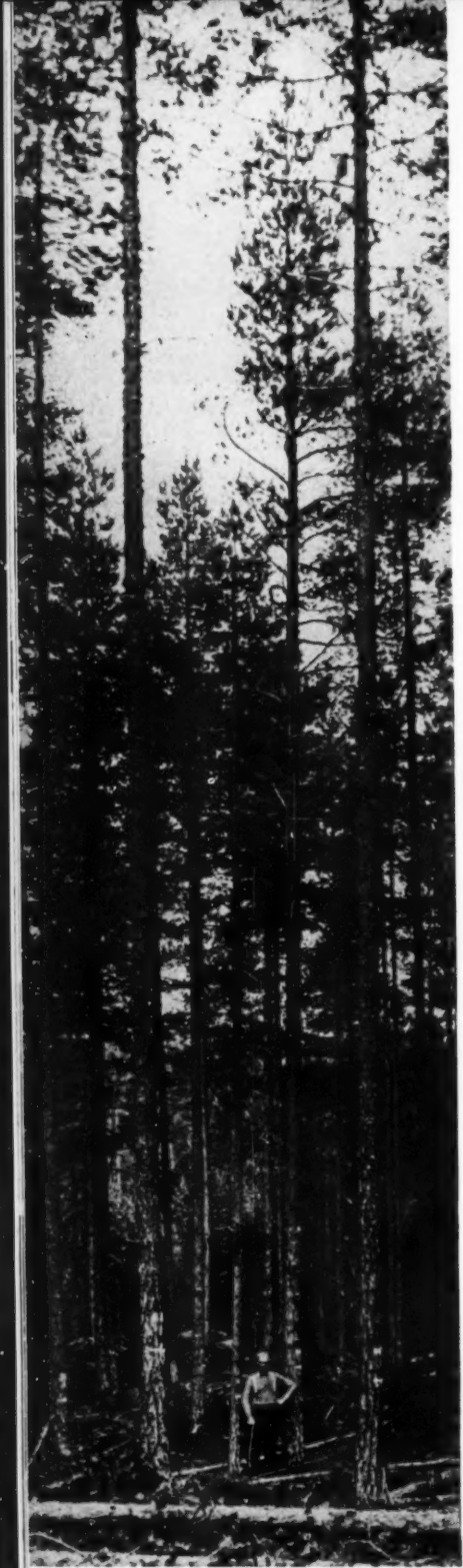
carried on in cooperation with the Texas Forestry Association of which Mr. Kurth was elected president in 1929.

In 1935 Mr. Kurth was selected as a guest of the Oberlander Trust on a tour of private and government owned managed forests of Central Europe. Shortly after his return from this trip Mr. Kurth placed the entire property under his management on a sustained yield basis.

Since inaugurating intensive forest management, Mr. Kurth has directed the planting of more than 10,000 acres of denuded land and has completed timber stand improvements on some 50,000 acres of Southland Paper Mills and Angelina County Lumber Company properties. In 1947 he made available 1200 acres of company timber land to the Southern Forest Experiment Station for experimental and demonstrational use. During the past decade he has provided through his organizations hundreds of thousands of seedlings which have been distributed free to private landowners.

Mr. Kurth takes an active part in various civic and public service organizations. He currently is serving as an honorary vice-president of The American Forestry Association.

The AFA Awards Committee, whose unenviable task it was to select the five winners from a field of topnotch candidates, was headed by Robert N. Hoskins, forester for the Seaboard Air Line Railroad. He was assisted by U. S. Representative Watkins M. Abbott of Virginia; Milton M. Bryan, U. S. Forest Service; Dr. M. D. Mobley, executive secretary, American Vocational Association; Fred Morrell, retired Washington representative, American Paper and Pulp Association; E. A. Norton, assistant chief, U. S. Soil Conservation Service.



Norwegians, while supporting the long-range forest productivity target of their public regulation program, feel incentive must stem from the bottom up if goals are to be reached

By DENNIS STRONG

# Norway

## PLANS BY THE C


FOR more than a thousand years, Norwegian life has centered in quaint, sod-roofed cabins that look like dreamy miniatures set between the long ridges of snow-spotted mountains and strings of lakes in the valley bottoms. Only a rocky trail, twisting through the pine and spruce and past a thundering waterfall, breaks the isolation of a lush meadow and a family farm.

The mountains have made this scene typical of Norway. Over seven-tenths of the country is treacherous highland waste, shrouded the year around in snow and wispy clouds. Norwegians can grow barely half their food, because only three percent of their territory is tillable. With no coal and limited mineral and ore deposits, Norway's most important natural resource has always been productive forests.

Switzerland has the same vast waste areas, but turned to special-

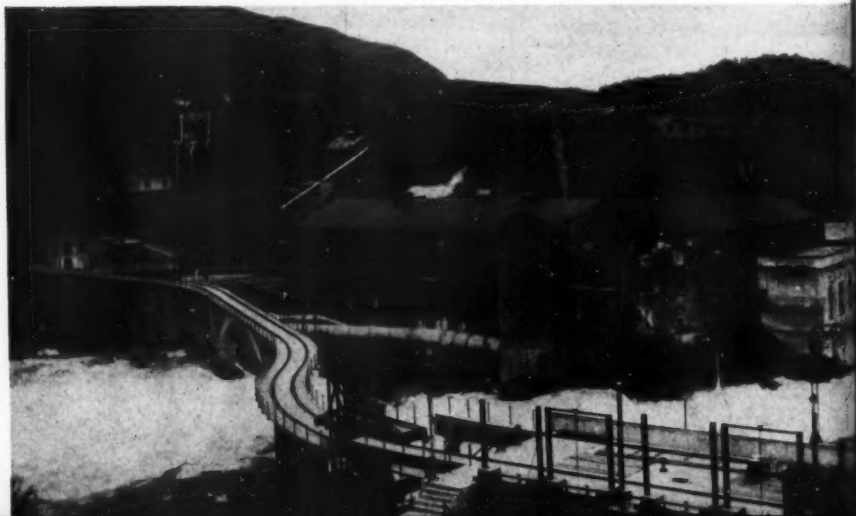
ized industry in order to maintain a high standard of living. This hasn't happened in Norway. Only in the last half century has Norway begun to build on its one industrial advantage, cheap electric power from waterfalls. The reason for this surprising lag lies in the fact that Norway was not independent until 1905. For centuries the country was vassal to great European powers, and as the "colony," there was no development of its industries.

So it is that, even today, a third of Norway's 3.3 million people live on farms by what they can grow, the fish they can catch and the trees they can cut. No one supports a family by only one of these means. Farms average only ten acres — fishing in the North Atlantic is like playing the lotteries — forestry has always been seasonal, because lots are small and most timber has to be floated in the spring rivers.



Selective cutting is big factor in Norway's eight percent increase in annual forest growth

Embretsfoss Papirfabrikk is typical of score of paper mills located along the Oslo fjord



# E CENTURY



Trucks and tractors are still exceptions to the rule in Norway. Practically all the land transport is by time-honored horse and sled rigs like these

Exporting of timber to the great naval powers on the English Channel was Norway's biggest source of income as early as the 16th century. Milton refers in *Paradise Lost* to "Pine, Hewn on Norwegian hills, to be the mast of some great Ammiral." Timber, a little iron and some fish were traded for two-thirds of the necessities of life.

No wonder, then, that opinion was unanimously in favor of public regulation. In 1688, control was instituted, limiting cutting of timber, restricting licensing of new saw-mills, and setting maximum outputs for mills then in operation.

From this beginning, government supervision of Norwegian forestry has continued to this day. Basic principles remain the same—that Norway is too small, too poor, and its economy too undifferentiated to allow free exploitation of the timber resources.

The "how" of regulation has been the live issue. Under Denmark and during the 19th-century union with Sweden, the policy was only to insure a steady income. There was not much interest in reforestation, drainage or any other sort of positive program. Only after independence and the full blooming of Norwegian nationalism has long-range planning been real and important.

Immediately after World War I, the Norwegians conducted a nationwide survey to find out just what were their timber resources. Productive forests made up a fourth of the country, with a total growth fig-

Marking and measuring spruce before sending it down river. The Township forest inspector directs this work and records the cutting for each property



ured to be 10.4 million cubic meters. Spot checks in recent years indicate that it is now over 12 million. If development continues on the same lines, annual increase should hit 17 million cubic meters by the year 2000.

Keystone for the entire program is the 1932 Forest Protection Act, the guiding principle of which is: "so long as the forestry inspectorate finds that the owner is dealing with his forest in accordance with the principles of good forestry, he shall be entitled to conduct the felling and the management of the forest himself." Norwegians call it "freedom under responsibility," but of course the state is entirely free to define "responsibility."

Special "principles of good forestry" are laid down for each of four different types of stands. In "young" forests, only "weeds" can be cut.

Felling in "mature" forests must be conducted in such a manner as to insure the natural regeneration. Boundary woods and mountain forests—largely high up on the mountains, close to the sea or in the far north—are classified as "protective" (to that lying farther down) or "exposed" forests. All felling in these two categories must be directed by the inspectors.

There are three authorities to carry out this supervision. In each township an elected, three-man lower board of control selects as its official representative a township forest inspector-manager. His work is mostly set down by directives of the county inspector of forests, who is named by a three-man county board.

The highest authority is the Ministry of Agriculture and its Norwegian Institute of Forestry Research, (Turn to page 36)

# YOUR SHADE TREES



## ... Pruning Practices

**F**EW owners of large trees have the inclination or the agility to do their own pruning and they usually leave this to experienced climbers. It is well, however, to understand something of the mechanics of the operation so that one can judge the ability of the tree worker he employs, or so that he himself may prune in the proper manner those limbs which are reached most readily.

There are many types of tools available for special purposes but most experienced arborists prefer, for general all-around work, a coarse toothed handsaw with a stiff tapered blade and hornless handle. For large cuts, one-man cross-cut saws are available, and for working in tight places a ribbon type adjustable blade saw is frequently desirable. For high work and places difficult to reach, pole pruners and pole saws will be found useful. Double-edged saws should be avoided, however, due to the safety hazard and the danger of nicking the bark unintentionally.

In normal shade tree pruning the experienced person will start his work at the top of the tree and work downward. In this way hanging branches may be removed without retracing his course. In general, dead wood is removed first, along with small intersecting limbs. Large live limbs should not be removed without carefully considering the result since their removal might create an undesirable hole in the crown. Diseased or borer infested wood is usually removed whether completely dead or not.

It is, of course, necessary to remove any limb back to a sound crotch so that vigorous cambium tissue surrounds the pruning cut. Branches over an inch or two in di-

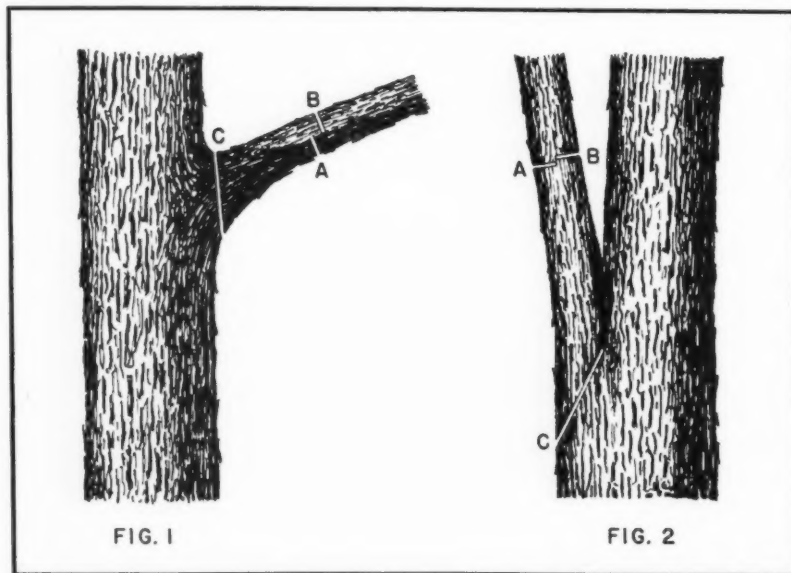
ameter preferably are removed with a multiple cut to avoid stripping the bark and wood. A preliminary undercut is made about a foot beyond the final cut and sawing at this point should continue upwards until the saw binds. A second cut is made on top of the limb an inch or two beyond the undercut, severing the limb. Finally, the stub is removed as nearly flush as possible with the parent trunk or limb. Round or heart-shaped cuts should be trimmed to an elliptical shape with a gouge and mallet to encourage healing, and protruding lips should be cut off in order to avoid die-back and water pockets.

To complete the treatment it is

necessary to paint the cut surface with a good grade of tree-wound dressing. Unfortunately, the perfect dressing has not yet been discovered but for general purposes an asphaltic base paint is fairly satisfactory. Lead paints or those with a high creosote content are apt to be less durable and even injurious.

It is useless to paint freshly made cuts if the surface is wet, as the dressing will rarely stick and, even if it does, water blisters will probably appear under the surface. A better practice is to wait until the wound is dry to apply the dressing. Until a more durable dressing is available it is well to redress old wounds—espe-

(Turn to page 38)



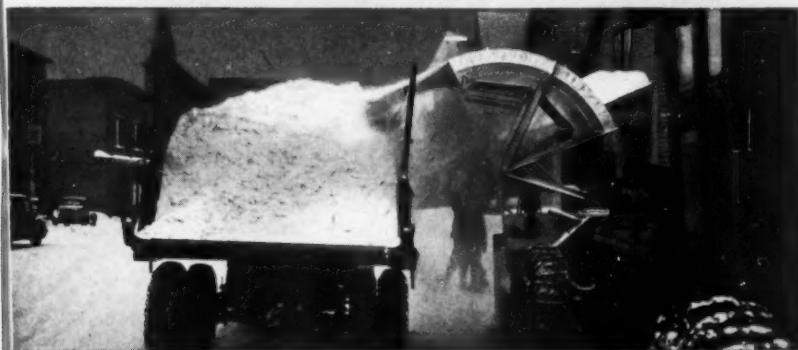
Examples of proper pruning cuts. Figure 1 is a normal branch cut while Figure 2 is a V-crotch. The preliminary cuts are made at A and B, stubs removed at C



# Rugged Power to... Break that Blockade

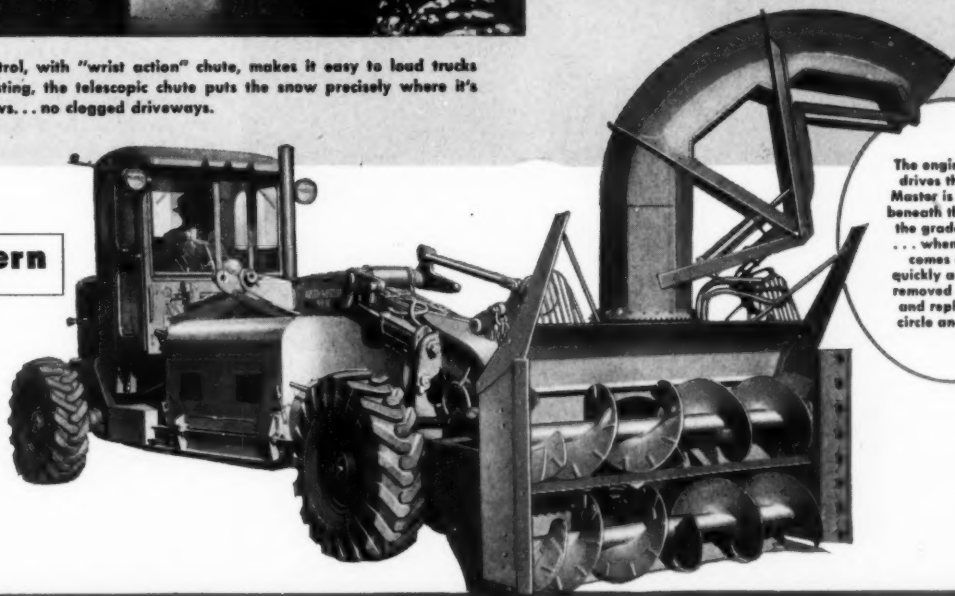


The powerful rotary augers of the Sicard grind up compacted snow and ice, whirling it toward the throat of the blower which has a casting range of up to 150 feet to either side. There's no bottleneck at the front end of the Sicard... each auger does its share of the work. Ice cutters can be quickly attached to the augers, when exceptionally difficult conditions are encountered.



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The engine which drives the Snow Master is mounted beneath the arch of the grader frame... when summer comes can be quickly and easily removed as a unit and replaced by circle and blade.

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Austin-Western and Snow Master—this is the combination to break the clutch of winter—to keep city streets and country highways clear.



Effortless, hydraulic power makes all adjustments instantly—rotates blower housing for direct casting to either side, or through chute.

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**Austin Western**



SINCE 1825—BUILDERS OF CONSTRUCTION EQUIPMENT



This 15-minute photo of Bull Lake fire in Montana pinpointed spot fires (right in picture) which otherwise may have escaped detection

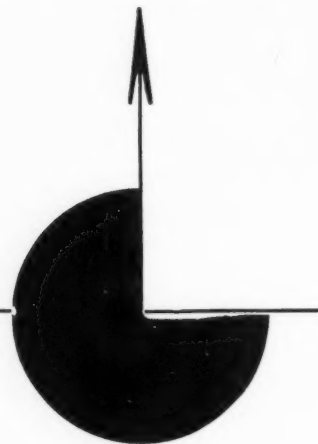
Planes skim fire, photographer shoots, develops and drops the picture in less than quarter of an hour. Note time stamped on bottom of photo



## Aerial Photos in Fifteen Minutes

Speed developed by air-borne  
shutterbugs is a boon to fire  
fighting strategists on ground

By ROBERT H. FORBES



**W**HEN air on the ground is heated, it rises in turbulent currents which are known as "bumpy air" to airplane pilots. Many airline passengers on a summer day know all about bumpy air, which often nauseates them.

Imagine bumpy air over and near a large forest fire, heated several times hotter than the sun's scorching, and the stout stomachs of fire-fighting men who dash in by airplane as close to the flames as possible. Ross Angle, a photographer of the Forest Service in Missoula, Montana, and pilots of the Johnson Flying Service do just that. They have flown to take close-up pictures of every large forest fire in the northern Rocky Mountains in the past ten years, where nine out of ten others would not have the stomach to last a minute.

What is more, Ross takes a forest fire's picture, processes the film and drops finished pictures to the fire-line, all in an average time of 15 minutes! Even though his flying photographic workplace is being tossed about like a rowboat on the open ocean!

At first, Ross worked in a light-tight darkroom in the baggage compartment of a Johnson plane, but  
(Turn to page 30)



NEW ALLIS-CHALMERS HD-9, HD-15 ARE  
built to **GET MORE DONE**

built to **TAKE IT LONGER**

#### UNEQUALLED LUGABILITY

The HD-9 and HD-15 build up greater drawbar pull faster . . . hold it longer than ever thought possible in gear transmission tractors.

For example, when tough going has pulled travel speed down 40 percent, these tractors will have increased their drawbar pull almost 20 percent over rated pull. They will lug down almost 45 percent from rated travel speed before drawbar pull even starts to fall off.

To take full advantage of this important GM 2-cycle diesel engine characteristic, the HD-9 and HD-15 have longer truck frames, lower idlers and sprockets. That means more track on the ground . . . better stability . . . sure-footed traction . . . unequalled *lugability*.

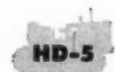
#### EXTRA LONG LIFE

Here are a few of the many reasons why these newest, finest tractors are *built to take it*.

- All-Steel Welded Construction
- More Power with Bigger Engines — Longer Engine Life
- More Weight, Greater Strength
- Extra Heavy Main Frames — No Extra Reinforcement Needed for Front-Mounted Equipment
- Long-Lasting, Large Diameter Clutches
- Double Reduction, Straddle-Mounted Final Drive Gears with Live Sprocket Shafts and Caged Bearings
- Positive Operating Track Release — Works in Oil
- All New, Specially Designed Track Assembly
- Positive-Seal Truck Wheels, Support Rollers and Idlers; Mounted on Tapered Roller Bearings, 1,000-Hour Lubrication!

Your Allis-Chalmers dealer will be glad to explain all of these advantages. See him or phone him now.

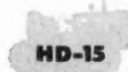
**THE NEWEST, FINEST  
LINE ON EARTH!**



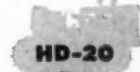
**HD-5**  
40 drawbar hp.  
11,250 lb.



**HD-9**  
72 drawbar hp.  
18,800 lb.



**HD-15**  
109 drawbar hp.  
27,850 lb.



**HD-20**  
Hydraulic Torque Converter Drive  
175 net engine hp.  
41,000 lb.

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eliminate waste paint,  
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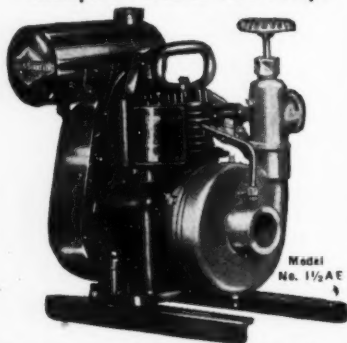
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State of Minn. Forestry Dept. Has  
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Darley Champion Portable Fire Pumps were selected over other makes by the State of Minnesota for hard service in the State Forestry Department.

Darley Engineering Brings You More  
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Capacity up to 250 gallons per minute.  
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**W. S. DARLEY & CO., CHICAGO 12**  
Manufacturers of Champion Fire Pumps and  
Champion Fire Apparatus

## Accent on Asheville

(From page 21)

guideposts for other areas with similar problems.

Another feature of the Monday afternoon session was the presentation by the North Carolina Forestry Association of a scroll in gratitude of more than 50 years of service in conservation to John Simcox Holmes of Raleigh, the state's first forester.

Sharing the spotlight at the Monday evening banquet were the convention's principal address, delivered by Erle Cocke, president of the Fulton National Bank, Atlanta, Georgia, and presentation of AFA's five Conservation Awards for 1952.

Cocke, taking a banker's look at forestry, termed the planting of pine seedlings "one of the best investments being made in the South today." He said about a quarter of a billion trees are now being set out yearly in the South and the rate may soon rise to half a billion trees.

Citing the methods used by the Fulton National Bank in spreading the gospel of good forestry, the banker said he believed "that the number of such organizations sponsoring forest projects will increase steadily as business and professional men come to realize that their well-being is inexorably linked to the preservation of our natural resources."

In presenting AFA's five annual Conservation Awards, Watkins M. Abbitt, U. S. representative from Virginia, gave inscribed walnut plaques to: Governor Herman E. Talmadge of Georgia, public service; W. S. Rosecrans, Los Angeles, chairman of the California Board of Forestry, public service; Ovid Butler, Chevy Chase, Maryland, forester-writer-editor, education; Howard C. Fetterolf, chief of agricultural education for

the state of Pennsylvania, education; and Ernest L. Kurth, East Texas lumber company and paper mill executive, industry.

In addition, the AFA Board of Directors conferred special distinguished service awards on James G. Eddy, pioneer in forest genetics and founder of the Eddy Tree Breeding Station at Placerville, California, and Allen Hollis, conservation-conscious Concord, New Hampshire lawyer who played a leading role in passage of the Weeks Act and subsequent establishment of national forests in the East. Both special citations were presented in absentia.

Certificates as "Tree Farms" operators, the 71st and 72nd to be made in North Carolina since 1944, were presented at the banquet to Reuben B. Robertson, chairman of the board, Champion Paper and Fibre Company, Canton, North Carolina, and Norman J. Warner, owner of the Warner Lumber Company, Asheville. Presentations were made on behalf of the North Carolina Forestry Association by Col. William B. Greeley, vice-president of the West Coast Lumbermen's Association.

The final two days of the convention, Tuesday and Wednesday, October 14 and 15, were devoted to field trips to surrounding points of interest. Tuesday's tours included the Coweeta Hydrologic Laboratory and the Great Smoky Mountains National Park and Cherokee Indian village via the Blue Ridge Parkway. Those taking the tours Wednesday visited Pisgah National Forest, Biltmore Plantations, The Champion Paper and Fibre Company, Mt. Mitchell State Park or the Biltmore House and Gardens.

## Aerial Photos

(From page 28)

that system had disadvantages. The tiny room was difficult to ventilate. Photographic chemicals slopped around, when the going got rough, and corroded the plane's control cables.

Now, a field laboratory similar to ones of the U. S. air forces is used. Ross develops film inside of this box-like affair with only his arms in total darkness.

Whether seeing or not, he has developed amazing speed. A complete picture of conditions below can be placed in a tube and dropped eight

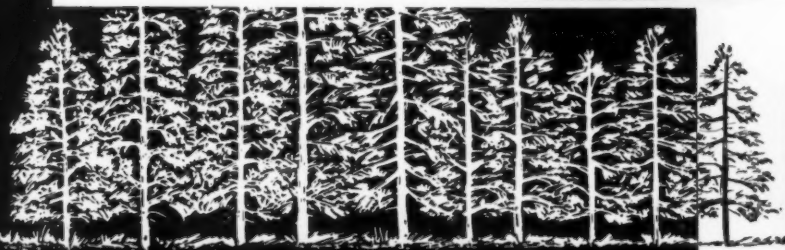
to 18 minutes after being taken.

A lot of detail is needed in pictures because they are an invaluable aid to fire-fighting strategy. From 15-minute pictures, fire bosses can learn the hour-to-hour size of the red monster they are combatting, its accessibility and general behavior.

Fire strategy can thus be plotted using evidence better than that of a scout, who plods around the outside of a fire in several hours at best. Also our armed forces find that photographs of objectives eliminate the fallibility of human judgment.



**OUT-CUTS All Other 1-Man Saws\***



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**THE LIGHTEST, MOST  
POWERFUL SAW  
YOU CAN OWN!**

*Free Tryout*

- ★ 5 horsepower for unsurpassed power in the bush.
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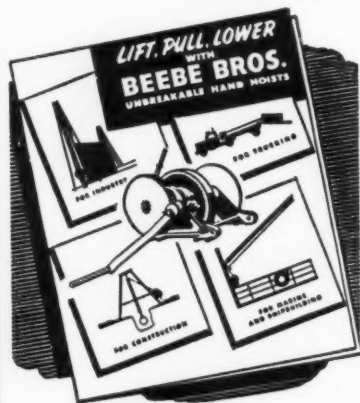
(Photo: U.S. Forest Service)

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2500 ROOSEVELT ROAD-CHICAGO, ILLINOIS

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## The "Firstest" Logger

(From page 11)

both ends with a carriage, or trolley, to ride on it). In that year, 1899, it was a sensation. One log at a time was hung beneath the trolley, attached by big grab hooks.

Dyche helped to make the trolley, working as a blacksmith's helper. This first crude carriage could easily be hefted up by one man, a far cry from the 2000-pound monster carriages now used. This pioneering led the way for many developments which followed in logging with overhead cable systems in rough country.

From Bridal Veil Bill traveled to Newport, Washington, where logging was then all horse power, before the days of either steam or gas engines in the woods.

Logging in those days was nearly all done in the winter on the snow with sleighs, for when the snow went off in the spring, and the frost went out of the ground, it was so soft that logging was impossible. Bill says the ground was so muddy "that it would mire a mosquito even if he was wearing snowshoes."

After the sleigh haul was over, about the middle of May, he used to go down in the dry wheat country to work on a wheat ranch until about the middle of October. Then back to the woods somewhere to skid and deck logs for the next winter's sleigh haul.

One winter he shipped to Somers, Montana, to drive a four-horse team hauling ties. Bill shared a boarding house room there with J. B. Thurston, then tie inspector for the Burlington Railroad.

Thurston told Bill about an outfit out of Sheridan, Wyoming, which before it went into receivership had been getting out a lot of ties for his company. The receiver had sold the outfit to a couple of bankers in Omaha who were looking for a man to take charge for them. Thurston wanted to know if Bill would be interested in the proposition. Bill told him no, he thought "it would be too big for me."

But to quote Bill, Thurston "kept on insisting, and a few days after he left, I got a letter from one of those bankers, with a railroad pass enclosed. They requested that I come to Omaha. While I still was not very much interested, I thought that it would be a free trip to Omaha, so I went. The upshot of it was that I took the job after going up there and looking it over."

This was in the Tongue River

country in Wyoming, the home stamping ground of the tie makers. Bill learned to run the show the hard way. He had to slog it out with the rugged weather on those high timbered plateaus where the mercury hid in the bulb at the bottom of the thermometer most of the winter. He was superintendent of three widely-separated camps operated by the company. It was sure a headache.

Nevertheless, Bill took over a money-losing show and made a profit for the company of more than \$100,000 in the first year of his operations. After three years the skinflint owners still would not raise his wages so he said to hell with all bankers and quit. (Two years later they closed down, sold the whole outfit.)

In Wyoming, Bill scored what is probably another first. In 1908 he was logging superintendent for the Big Horn Timber Company. In his own words "I had four million feet of logs decked up on skids to be sleigh-hauled about six miles to the river. I also had about 30 million feet decked up at two other camps for sleigh haul to the river at two other landings.

"I realized that we did not have enough teams and equipment to move it all on the snow in time for the drive. So I was ready to listen when a man came to see me one day and said he had a Holt three-wheel tractor and he knew he could haul logs, too, though he never had. After talking to him for a day or so, and doing a lot of considering, I let him have a contract to haul the four million feet, and will say that he did a good job.

"It took us both a week or two to get things organized—had to freight the gas 40 miles by horse up a real hard mountain road. It was 20 to 30 below zero all the time at that 7000-foot altitude, so we had to keep his rig covered all the time it was not moving, reverse the fan, and make other changes.

"I don't want to make a positive statement that I was the first man to haul log sleighs with a gas tractor, for some old chin-whiskered guy might bob up and prove me wrong, so will just say that I think I was the first man to use one for that purpose."

This use of the gas tractor in log hauling was an important milestone in western logging.

There is no doubt that he was ahead of the game with other developments in logging. During his heyday, he was logging superintendent for the big Algoma pine operation, near Klamath Falls, Oregon. Here he pioneered many of the methods which are now taken for granted in woods work. For instance, the shovel loader. When Bill first decided to make the well-known dirt digger into a portable log loader he got a hearty laugh from the wise guys.

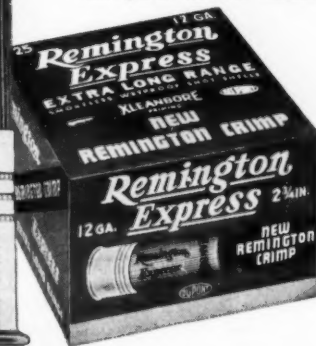
But he went ahead, pulled the boom off the shovel, and replaced it with an A-frame of stout poles. Heavy steel plates were run up the bases of the poles for support, and a block (pulley) was hung at the top of the frame for the loading line to run through. This loose block banged around and beat up the poles, so Bill added a new wrinkle. He had his blacksmith make a metal boot to go over the ends of the poles.

Inside the boot he placed a fair-leader (a set of rollers) which guided the loading cable without any slapping around and so ended the trouble of the loose block. This portable loader was fast and flexible and soon became as indispensable to truck logging as the old steam loading rigs were to railroad logging. This marked the beginning of the highly specialized track-laying loaders now so common in Western woods.

Snags, those old skeletons of dead trees, have always been a great problem in forest fire fighting; particularly so where they are left standing after logging. To get rid of snags, burning has been used in the pine country with varying degrees of success, sometimes with very poor results. Sawing them down is certain, but costly. So Bill Dyche came up with an idea—why not push them over?

One Sunday morning he and one of his tractor operators went to work on the problem. First they slanted a long reach pole across the top of a logging arch (or trailer) and used it to shove snags. The pole was too light at first, but the set-up was constantly changed and improved in use until it became the basic idea for various snag-pushers used today.

For several years in the nineties, first steam and then gas-powered tractors had been used to pull the old wooden-wheeled log carts to the log dumps in the western pine region. The carts were loaded at landings in the woods where logs were yarded (or hauled in) by horses pulling big wheels. The early wheel tractors were slow and cranky, low-



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powered for their size, and almost helpless off a road. The steam rigs were always a fire risk.

But the first crawler tractor, that was something to bring a gleam to Bill Dyche's eye. Crawlers can go most anywhere in the pine woods, roads or no roads; they are much faster than animals, haul more logs, and don't eat hay on days when the camp is shut down. So Bill went wholeheartedly into hauling his big wheels with tractors—another Dyche first.

One other useful device will show his inventive skill on the job. To speed up skidding he had a man knock the heavy limbs off the top and both sides of felled timber. This helped a good deal, but it still left the hard-to-reach stubs on the bottom side of the log. So Bill produced the Algoma roll-out hook, a very heavy crescent-shaped iron hung on the front of a cat. The convex side of the crescent was fastened to the frame, and the concave side was notched so it would get a grip on a log.

The cat skinner just dropped the hook under the side of a big old yellow pine log, lifted and heaved a little, and presto, up came the underside so the knot bumper could clean the limbs off that side, too.

Bill is no dreamy-eyed gadgeteer, just sitting around hatching up entertaining ideas. He has been a successful logger because he is one of the most practical. His ideas are

meant to work in the woods. He always figured costs closely, cutting a few cents here and a few cents there. And without abusing men. In his outfit every man had a definite job to do, knew how to do it, and was left alone to get it done.

Dyche was one of the first men to make detailed cost analyses of every move in logging, and the results are startling. He put millions of feet of pine into the water for one company through the years and not once did his costs go over five dollars a thousand. And in doing this he paid the best wages and fed the best grub.

In the days when woodsmen took real pride in their work it meant something to work for such a man. One evening in Klamath Falls several loggers were comparing notes on the day's work. "We got 200,000 board feet on our side today," bragged one. "That's all right for boys," said another, "but I work for Bill Dyche. We got 300,000 today." They did, too.

One of the main reasons for this high production was that Bill tried to anticipate what might happen and to have a cure ready when it did. He had replacement equipment ready at all times *on the job*, not in a warehouse in town. He had one of the best-equipped machine shops in the woods and hired a man who knew his business to run it.

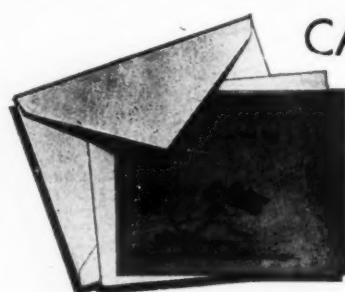
Equipment was always maintained up to snuff, fit for the job it was intended to do. Wherever possible, he suited tools to the personal preferences of the men using them. If a knot-bumper wanted a five-pound ax, and a faller a four-pound ax, the right tool for each man was always at the woods shop waiting for him, sharp, ready to go.

Another reason for Dyche's success is that he is open-minded, always willing to try a new idea. A case in point is the power saw. Some old-time loggers scoffed at the idea because the first saw motors were so cranky. But Dyche looked beyond the early failures and took on the power saw. He was the first logger in his part of the country to do so. The complete acceptance of power saws today proves his good judgment.

These various firsts in logging methods and equipment are important in the life of a man who has been a top-notch logger for over half a century. But there is another first which is still more important.

William K. Dyche is *first* in the regard of the men who know him.

Despite his years, vision not as (Turn to page 36)



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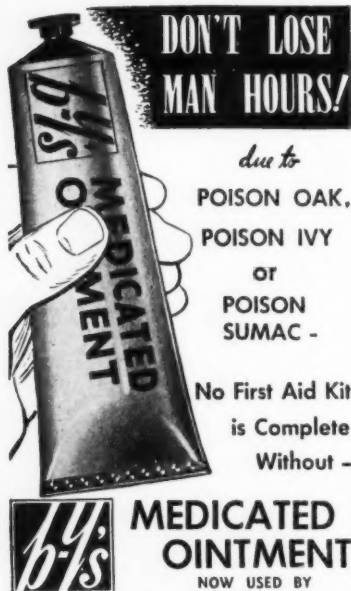
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## "Firstest" Logger

(From page 34)

good as it used to be, and the fact that he fell off the roof and broke his back awhile ago, he is still very much the boss logger. And a highly respected one. Only last year he was asked to do a consulting job in another region where a logging operation had run into a mess of trouble.

It is a real privilege to know Bill. In his one lifetime he has spanned the entire history of logging in the West, from bull team to the super cats now appearing in the pine woods. His tremendous interest in logging makes him willing to share that information with other men who have a stake in the timber and its logging. He has helped many a younger man to come a close second to the man who was the firstest logger of his time.

## Norway Plans

(From page 25)

but the real medium for unifying policies is the Norwegian Forestry Society. The Society has a broad membership and is considered independent. Actually, though, it acts semi-officially; Society officers are state paid.

Just as with the local boards, the work of the forest inspectors is highly organized, and directed from the top down. A woodlot is classified and regulated according to fixed principles. The inspector can forbid the felling of trees that have not been marked out by him; and, if there is not sufficient stock for a natural rejuvenation, the owner may be forced to undertake measures to ensure renewal of growth.

Probably most interesting are these regulations for forest development. All owners selling serviceable timber must undertake improvements in the forest from which the timber is sold. To finance this work a special tax is levied, now two percent of the gross value cut. This cultivation fund is established in the name of the property, but is administered solely by the local forestry board. Outright state grants usually cover half the costs of planting and sowing, and about one-third of the costs of drainage.

As for forest ownership, the government aims at preventing the accumulation of properties in the hands of a few owners, especially those living outside the county, of

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joint-stock companies and foreigners. The sale of forests exceeding a fixed maximum area is subject to concession. This limit is set by the county council, subject to approval by the Ministry of Agriculture. It amounts to a frank attempt to keep woodlots small and broken up, while at the same time encouraging co-operative management through the Forestry Society.

About two-thirds of Norway's forests are today attached to farms; and of the 120,700 properties, only 6000 are of 250 acres or more. About 15 percent of forest area is in public or semi-public ownership, mostly "protective" and encumbered with user rights. Public control has never been linked with public ownership.

For 1951, the concrete results of these policies look good. On the grounds that cutting should never exceed growth, yield was held down to 11.8 million cubic meters. Income from this timber was equivalent to five percent of Norway's net national product, but made up a fourth of the country's exports. In its conservation program, 7500 acres were newly planted, 3250 acres newly sown. With 925 miles of ditching, 16,750 acres were drained.

Total cost of these projects was five million Norwegian crowns (\$715,000), split about 50-50 between tax payments and state contribution. At year's end the capital fund from the forestry improvements tax stood at 24 million crowns (3.5 million dollars).

Most of the planting is being done in the west and north of Norway. Government officials have become alive to the fact that planted spruce thrives excellently in these districts and can yield fine timber in the course of 50, 60 or 70 years. Until recently a low timberline kept spruce from moving into the west and north. The climate is now becoming much milder, especially due to the Gulf Stream, and spruce can renew itself right up to the Polar Circle—the northernmost spruce forests in the world.

The possibilities are tremendous. In the four western counties, for example, the annual timber increase at present totals about 570,000 cubic meters. When all good outlying land, unusable for pasture or tillage, has been planted and brought to full production, annual growth will be three or four million cubic meters.

About 15 years ago, the director of forestry prepared a scheme for securing an annual increase in cultivation amounting to 37,500 acres of dense young forest. The results for last year came closer to this goal

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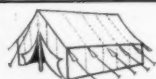
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than those for any previous year. But the feeling is that progress should be better. Authorities say they are limited by two factors: the nation-wide labor shortage and the common ownership of outlying lands for grazing.

Talking to farmers and small lot owners, there is more to the story than this good record under difficult conditions. One big criticism looms over the whole of Norway's conservation program—that everything is run by directives from the top down. The owner takes his questions to the adviser, the adviser sends them on to the Ministry building in Oslo.

State foresters take practically no initiative in approaching the owners. If they do, it's because of their own interest and not because the work is included in the guidance program itself.

The big obstacles to the average owner's obtaining skilled instruction point up how badly a good advisory system is needed. There are four State Forestry Schools with one-year courses ordinarily covering 1000 lessons in theory and four months' practice in summer. But only one out of five holdings above one acre are owned by people with training in agriculture or forestry.

The gap between education of large and small operators is increasing, too. Because of reduced hours for hired help, as well as emigration to the towns, the working day for the small holder has been longer than ever. Coupled with this is the shift to a strictly money economy; farms are no longer self-sufficient units, with helpers working for house and board, and mechanical equipment is extremely expensive.

There are also certain psychological factors among smaller owners which are of great importance. The county agent's request to trim out for the cause of "better forests" has

no appeal to him. He is "too small." "What difference does it make?" is a common response. Here the agent is all too often unable to give a solid answer, pointing out how he can get more and steadier income, whatever the size of his lot.

With the lack of this positive argument, technical literature does not get the reading it should. Many libraries complain that it is readers and not books that are scarce. However, it has been proved that borrowing from the libraries has increased tremendously where active propaganda has been conducted. The latent interest is there. It needs only the spark of a concrete appeal to make it active.

There is no "pork barrel" in Norway. The country is just too small for that. In a way, it is almost the reverse: foresters are underpaid but have a high social standing based on their advanced education. Too often, there is no personal tie between them and the small owner group, not even common financial interests as where there is a "pork barrel."

Strict public control over forestry is still not questioned in Norway. The long range objectives are sound and are supported by everyone concerned. The statistical records for planting, draining and cultivation look good. Yet the belief persists among government leaders that forest improvement is moving too slowly. Small owner sentiment is dramatized by the fact that many thousands of them have pulled out of forestry since the last war, despite the boom in paper and pulp.

Unless these two groups, the highly trained, theoretical engineers and the small, practical owners, can gain a sense of teamwork, Norway is likely to fall far short of realizing the challenge of forestry conservation.

**Your Shade Trees**

(From page 26)

cially large ones—each year. A stiff wire brush is useful to remove loose flakes and blisters before the new coat is applied.

Occasionally it will be noted that cuts and wounds continue to drain for a long period. This condition is difficult to correct but it has been found that excessive seepage or fluxing of tree wounds may be locally retarded or stopped by tapping at the tree base to decrease the heartwood pressure.

It is often necessary to remove one

of two limbs which have developed so nearly parallel that a very tight V-shaped crotch has been formed. Such a structure is relatively weak due to the layers of bark and non-connecting woody tissue which have been built up between the limbs. It is often desirable to brace such limbs together but not infrequently it may be necessary to remove one of them. The real junction of the limbs may be one or several feet below the apparent point of separation and the final pruning cut must be made at



the real junction to heal properly.

Many people feel that suckers and watersprouts weaken a tree and so should be removed as they appear, but since they are often nature's way of indicating trouble or a changed environment, it is good judgment to determine the cause before removing them entirely. The removal of a large limb close to a small branch may result in excessive sprout development, or the growth may arise from such causes as changing environmental conditions; structural injuries; or as a result of certain diseases. They are also caused—too frequently—by excessive or incorrect pruning practices.

Base suckers usually are of no benefit to an ornamental tree and detract from the appearance of the tree as a specimen. They should be removed, usually, as they develop. Trunk and limb sprouts on some species such as elm should be allowed to develop, since moderate suckering on the trunk is normal under certain conditions.

If the suckering is an apparent attempt by the tree to provide shade for the trunk or limbs after protecting trees have been removed, the

suckers should be left—or possibly given a careful thinning—in order to prevent sunscald and as a means of filling out the crown on a weak side.

The removal of old, partially healed stubs often reveals more or less decay which has resulted from infection by rot-producing fungi. If the decay is slight it can be chiseled out, and the wound shaped and painted by the pruner. If extensive decay is present, however, it is better to leave the wound unpainted and unexcavated until more complete treatment can be given as it is, of course, valueless to paint over decayed wood.

Pollarding, or dehorning, as it is sometimes called, is a process which shade trees rarely require in spite of the frequency with which we see trees mangled by cutting them back severely.

It sometimes happens, however, that a valuable old tree has been weakened by insects, decay, or environmental disturbances and it is desirable to prolong its life a bit by reducing the weight or wind resistance of the crown. The chief dangers in a dehorning process are

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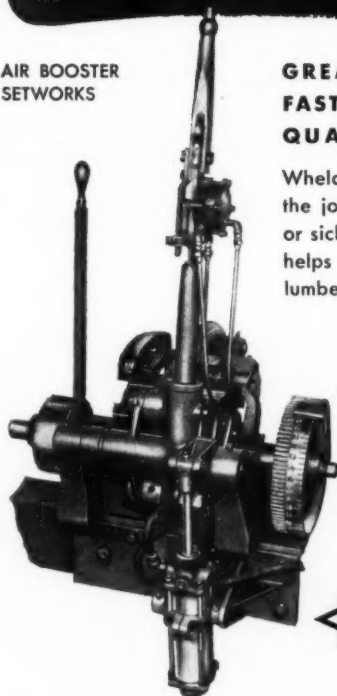
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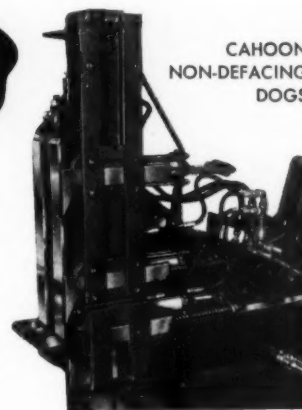
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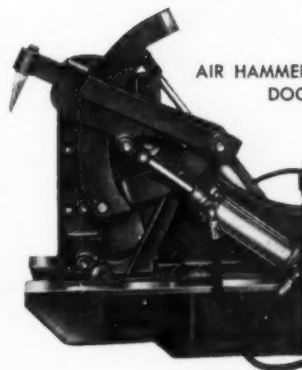
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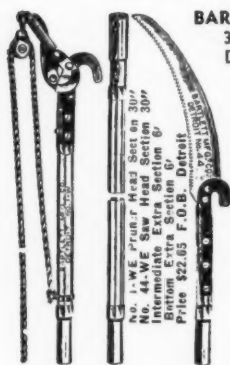
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found in the decay which is almost sure to follow at the dehorning points, and the sunscald permitted by the reduced canopy. Species which do not readily form adventitious buds or suckers rarely are benefited by this type of pruning which in unskilled hands may be more harmful than beneficial.

When dehorning is clearly necessary, the practice of pruning back to a live lateral should, of course, be followed. All branches should rarely be cut back severely the same season, however; rather the program should be extended over three or four years to minimize shock. The whole program should be carefully

planned in advance to assure that the ultimate form of the crown will be a desirable one.

It is sometimes desirable to prune trees which are infected with a virulent disease—maple wilt, fire blight, or elm wilt, for example. Great care must be exercised under such conditions to prevent the pruning tools acting as spreaders of the disease. Saws and pruners used in this work should be carefully wiped off or dipped in a solution of bichloride of mercury or alcohol between each cut.

The old gardeners' rule—prune close and treat—is always followed by the careful pruner.

## A Fowl Deal

(From page 16)

brought the Flight in low, just over the tassels, and peeled up. Up and up, then around.

"Tighter, tighter," quacked Homer behind me. I almost went over on my back in the effort but I couldn't head off those ducks. Tight as I turned, there was Homer, industriously pecking away at my stern, and he disconcerted me so that I dropped in hard from about ten feet.

I lay on the ground, panting. "I'm bushed," I said, then added quickly, "Yeah I know . . . you're Homer." Homer waddled away in a pet.

I had to take it easy for awhile, getting my wind back, while the gang dug in and tugged at the firm kernels of the sweet corn. For the first time today I thought about eating. I was about starved. I impressed everyone by strolling down the rows, picking the juiciest ears and shucking them. Devouring them greedily, I tossed the cobs to those of the gang who had put in a good

word for me during the day.

After supper, while we all sat around picking at ourselves, the old bull-session started. I listened for awhile, then began telling about the time we flew the Aleutian Chain non-stop.

"Bet you went around by way of Kiska, Adak, Cold Bay and the rest," said Sidney. He was feeling sharp now that he'd found somebody he could turn inside of.

"Naturally I followed the islands," I said.

It was the wrong thing to say. The gang slapped their wings and quacked uproariously. It took me several minutes to quiet them. Then I said, "I suppose youse guys go straight across." I was picking up my Duck fast. I'd discovered that "youse" was plural.

Reginald drew himself up. He was still only eight inches off the ground. "Naturally we go straight across. Real ducks don't know no other way."

He'd hurt my feelings and I went off into a dark corner to sulk . . . Homer came over and joined me. "Don't pay no attention to them birds," he said. "They love to get back at an Air Force jockey. Lots of us had our tails singed, messin' around behind them jets."

I felt a little better and nibbled at an ear of corn. Homer, wanting the juicy cob, tried flattery.

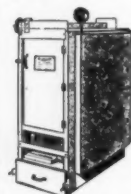
"Them turns you made was fine," he quacked. The rest of the gang set up a twittering protest and I had to beller at them. "Only thing, you wasn't turning tight enough. Even Sidney, there, was cutting inside you."

"I couldn't help it, Homer. I'm

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packin' an awful high wing loadin'."

Homer looked his contempt. "Don't go givin' me none of that old I'm-packin'-a-awful-high-wing-loadin' stuff. I'm packin' more'n you. And looka Sidney there. Think of all that buckshot in his craw."

I hunched my shoulders humbly. "Give me a tip, Homer. I'd sure appreciate it."

"Well, okay. Look; how'd you do it in the Air Force?"

I thought for a moment. "High RPM and low manifold pressure," I said.

"So peelin' off this evenin' you bring us around hotter'n a two-dollar pistol, for the goodness sakes. You was pullin' streamers a yard wide."

I felt properly chastened.

We roosted in some willows along the bank of a stream but I didn't get much sleep. I spent most of the night thinking about the briefing I'd have to give the gang, come morning. I finally dozed off just as it was time to wake up. My head was stiff again, and sore, and my armpit ached. Homer said I'd get used to that. He seemed surprised that I'd ever slept any other way. We settled down to our warm-ups.

Head Duck had joined us during the night, minus half his tail feathers, and he glared at me murderously. He was Head Duck and we both knew it, but by virtue of my quick thinking under fire the day before, I was Acting Head Duck and would be until he grew some more feathers. It teed him off.

"Smart Aleck," he growled from deep down in his gizzard. The gang hushed and listened in awe. Apparently Head Duck had some rank.

"You keep a civil tongue in that big, greeny head of yours or I'll run clear off and leave you today," I said with some heat.

"Quack quack quackquackquack," he jeered. "Since when can a contact jockey run off and hide from a dial boy? Me, I gotta Green Card."

I hushed, then. I couldn't tell the gang my license had lapsed. We finished our warm-ups and I called out the formation. Head Duck scuffed his orange feet and glowered when I put him in the tail-end Charlie spot, but then somebody had to fly it.

With a last flap of my arms in my warm-up I said, "Okay, we're off." Springing with my legs from the low bough, I tried to stretch my glide into some speed but I didn't have the altitude. I hit the sod hard. The gang completed their take-offs and circled, waiting.

I tried three times, losing two pounds of hide and wearing out my only shirt. I flung myself on the ground and wept.

Homer landed beside me. "Look, junior, don't carry on that-away. I can't stand it. Over yonder about a hunnert yards I seen a bluff. You can fling yourself offa that. We'll circle and wait for you."

I looked at him with tears of gratitude in my eyes, then turned and headed for the bluff. Atop it I found a large pine tree and clambered up. I found I had quite a bit of altitude from that vantage spot. My toes were curling out the ends of my shoes so I hooked them around a large bough, bent my knees and sprang...

I took over in the number one spot and led the gang in a wide circle, trying to get up speed. Flying low over a thick clump of reeds on the lake I dodged as warning quacks came from the Flight but I was much too late. A full charge of shot caught me in the left shoulder and I dropped like a Sabre Jet from a power-off stall. I didn't mind the splash when I hit the water, though it hurt. But being retrieved by a Cocker was more than I could bear.

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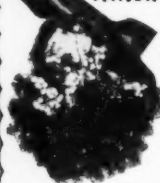
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I passed out cold as he tugged me to the shore.

It's nice here in the hospital. Knowing Duck, I find I also know the hieroglyphics these docs use when they write on their little cards. I'm labeled a psycho, all because I made the mistake of worrying about the Flight, out loud. I got off a whole lot easier than the hunter that brought me down. Last I saw of him he was down on Nine, carefully laced in a tight bag, screaming, "I'm telling you for the last time, he's a duck and he's mine."

## Your Woodland

(From page 17)

ated at proper tension on the blade.

All instructions for care, maintenance and operation come with the saw and should be read and understood before putting it to use.

Most one-man power saws have teeth along the horn or the part of the saw which is held against the tree in cutting. These aid in making the cut by helping to apply pressure to the cutting chain. Fastest cutting is obtained by starting the saw cut near the under cut in felling and working the cut around the tree. In cutting the tree, the cut is started just below the middle of the log. The teeth in the horn are forced into the wood and pressure applied to the cutting chain by forcing it against the wood through pressure on the handle of the saw.

Trees can be limbed and topped with either saw or ax, depending on their size. Limbs and tops four inches or less in diameter can usually be chopped; larger limbs can best be sawed, except when the power saw is used. All limbing and topping can be done with this tool. In felling the timber, care should be taken to see that trees selected as crop trees are not damaged. Stumps should be kept down to six inches or less and tops utilized to the smallest marketable size.

Skidding trees to landing. Skidding can be best accomplished by hauling tree lengths to the landing. Either teams or a farm tractor can be used for this purpose. If the ground is not too steep, a farm-type tractor will do a good job. In steep ground teams are more efficient and safer. The trees can be bunched together, using a chain as a choker, and as many skidded at a trip as the team or tractor can most efficiently and safely handle.

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ed for skidding, only a few logs should be hauled down any one place. When skidding is completed brush or tops should be placed in the skid roads to help prevent excessive erosion of these areas. In skidding the trees to the landing care should be taken to see that crop trees are not damaged by having the bark knocked off the butt. The first bunch of trees skidded out of the woods should be used to construct the landing.

**Construction of the Landing.** In constructing the landing, the first step is to select a good site. It should be on a gentle slope or on level ground and not any further from the woods than necessary. One tree can be laid on the ground and across the slope for a bunk log. Then poles are cut six to ten feet long for skids and notched in place on the bunk log and laid down extending up the slope. These skids should be notched about four inches from the end and allowed to stick out past the bunk log just far enough so that if the sticks are sawed from the trees they will fall away from the landing.

**Sawing Trees into Products.** Before starting the thinning operation you have surveyed your markets and know the products into which the trees are to be cut. Here again the cutting tools best suited for the job at hand should be used. These are the hand bow saw or the power saw as described before. Use them as described and a very fast and efficient job of sawing will be accomplished. Trees should be rolled up into the notches cut in the skid poles and cutting done from the ends toward the middle after the trees have been marked off in the proper lengths to be cut.



"Come and get it . . . watery soup . . . dry hard bread . . . soggy potatoes. . ."

Faster work at the landing will result if the number of trees allowed to accumulate at the landing at one time is kept below about ten. If more than this are allowed to accumulate they usually get in the way of each other and rolling them on to the landing becomes difficult. After all the trees have been skidded to the landing and cut up, the pieces in the landing should also be cut up and utilized. The odds and ends resulting from odd lengths and trim can be utilized as firewood.

**Loading the Truck.** The products from this operation will probably be mine props or pulpwood and can be loaded by hand. Any one and a half ton truck fitted with a flat bed and stakes is suitable for the job. Two to two and a half cords of pulp, and 200 to 300 props usually is the maximum load that one should try to haul. Loading can be made easier by the use of a hand hook which helps greatly in picking up the sticks and loading them on a truck. Such a device is merely a curved hook with a "D" handle similar to a hay hook but adapted for use in handling pulpwood sticks or props. Loads should be well balanced and well distributed over the truck bed.

**Hauling to Market.** Hauling to market is similar to other farm crops. It entails taking the crop to the market where best returns can be realized for the products. It requires that a truck in good operating condition be used, and that traffic regulations and safety and courtesy on the highway be observed at all times.

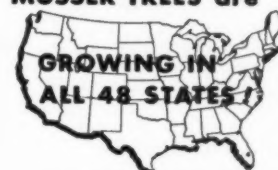
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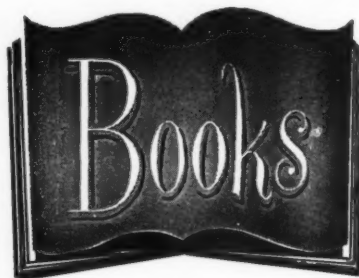


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**Son of the Forest**, by Arthur H. Carhart. Published by J. B. Lippincott Co., Philadelphia and New York. 24 pages. Price \$2.50.

An exciting and authentic adventure laid in Colorado's Shavana National Forest, this novel is not only a thriller but a lesson in conservation that is both ably and interestingly taught. Jim Craighead, 17-year-old son of the forest ranger, comes to grips with the stock grazing on public lands issue on a personal basis. Being the ranger's son, he finds it difficult to make friends at once, but becomes a hero when he kills the wild mountain lion and later has the hair-raising experience of fighting a forest fire. Though Jim's life and his father's are threatened, their deep convictions and friendship with the law-abiding stockmen help to rid their territory of a crook and bring to the cause of conservation the biggest stockman on the range.

**The How and Why of Better Gardening**, by Laurence Manning. Published by D. Van Nostrand Co., New York. 239 pages. Price \$3.

Careful presentation of subject matter and logical organization make easy, stimulating reading of what amounts to a synthesis of 16 general and applied plant sciences. Although the book makes a dependable reference, the separate chapters can well be considered essays in their own right.

The author's purpose is to give a total understanding and grasp of plant life and the natural forces that affect it. The book is "no substitute for encyclopedias, but gives a bet-

ter light to read them by."

(The author, Laurence Manning, conducted "Your Shade Trees" in *American Forests* during 1943.)

**Far Corner, A Personal View of the Pacific Northwest**, by Stewart Holbrook. Published by The Macmillan Co., New York. 260 pages. Price \$3.75.

Dubbed by *The Oregonian* "the adventuresome Yankee," Stewart Holbrook has written again about that part of the country which he loves and knows best. This is the saga of a latter-day pioneer, the author, who invaded the Pacific Northwest wearing the only derby hat in those parts.

During the many years spent in the region as a reporter, he came to believe that far too much had been written about the wars with the Indians and far too little about "the wars of the cities for survival and supremacy." Here he adjusts the balance by telling why this town failed and that one flourished. The "favorite myths" of the region are treated and, also, the colorful impostors encountered, such as Jesse James and a character claiming to have survived the Custer Massacre.

**The Lady and the Lumberjack**, by Olive Barber. Published by Thomas Y. Crowell Co., New York. 250 pages. Price \$3.

In a story bursting with vitality and gusty humor, the author describes her life as wife of a brawny logger in the northwestern forests. Following a unique courtship, this straight-laced schoolteacher embarks on a most unconventional marriage which has its beginning in a tent in the north woods. This gives a truly feminine view of loggers and logging which is lacking in previous writings on the subject.

**The Common Loon in Minnesota**, by Sigurd T. Olson and William H. Marshall. Published by University of Minnesota Press, Minneapolis. 73 pages, illus. Price \$1.

This is an interesting study of the loon, its habits, calls, relations with other wild things, etc., which was almost wholly prepared through research in the Quetico-Superior wilderness canoe country of northern Minnesota and adjoining northwestern Ontario. All bird-lovers, as well as those who advocate wilderness preservation will enjoy this booklet. Copies may be obtained by writing the Quetico-Superior Foundation, Room 1308, 347 Madison Avenue, New York 17.



## Forum

(From page 2)

uate currently doing economic research in the Scandinavian country. In addition, there are the usual *Your Shade Trees*, *Washington Lookout*, and *Managing Your Woodland* features.

**Our Readers Say** — The interchange of letters quoted below provides *American Forests* with its most interesting controversy in many a month. When all has been said, the participants may be adjudged unbloody, unbowed and friendly as ever. Writes J. V. K. Wagar, head of the Department of Forest Recreation and Wildlife Conservation at Colorado Agricultural and Mechanical College, Fort Collins:

I have just finished reading Robert D. Wray's "Be Your Own Guide," in the June, 1952, issue. "Let An Aerial Map Be Your Guide," would have been a fairer title, for Mr. Wray advocated skill in the use of maps rather than skill in woodcraft—the quality for which men have hired guides when in need of others' help.

Like a similar article in the March, 1950, *Photogrammetric Engineering*, "Uses of Aerial Photographs in Forest Recreation," Mr. Wray combines professional and recreational uses of aerial maps into one article. Unfortunately he does not distinguish between the opposing accents of the two. Businesses and professions must keep within time and money budgets, and even public servants should abhor red ink. But in recreation we play a game, against other humans in team sports, against Nature and the intelligence of her creatures in mountaineering, hunting, and fishing. In games it is not good sportsmanship always to win. Hence Mr. Wray's statements about always avoiding rough going seem out of character.

The issue is not new. Aldo Leopold in his *Sand County Almanac*, urged understanding of nature rather than great dependence upon gadgets. Stewart Edward White in *The Forest*, written fifty years ago, wrote of the outdoorsman:

As he substitutes the ready-made of civilization for the wit-made of the forest . . . to exactly that extent is the test invalidated. He has not proved a courteous antagonist, for he has not stripped to the contest.

Mr. Wray evidently despairs of finding his way through forested country except with the help of artificial aids, for he mentions: "... the trial and error method to find out where to ford a stream, how to get around a cliff, or which side of a mountain has the gentlest slope." Yet intelligent, experienced woodsmen advance beyond trial and error to a cautious sureness which is useful even in areas which are not mapped. White, in *Camp and Trail*, mentioned that a trail goes only "... where a trail must go ..." and that "A mountaineer . . . recognizes the altitude by the vegetation . . . knows also the country formation . . . whether the canyon before him will narrow to an impassable gorge . . .

whether he shall choose the ravines or ridges . . . and exactly how he can descend on the other side."

Outdoorsmen nostalgically look back to the days of Lewis and Clark, John Colter, and others who had time and space in which to joust with nature in unmapped country. A few of us have been privileged to traverse unmapped wildernesses within our times. The labor was great, but the harvests were greater than a creel of fish to show the neighbors or a dead deer gathering dust on a fender.

Writes Author Robert D. Wray in rebuttal:

The most direct answer to Mr. Wagar's remarks about my article would simply be: If you feel that using aerial photos in forest recreation is taking unfair advantage of Nature, then by all means don't use them. But the matter goes a little deeper than this.

Mr. Wagar feels that using aerial photos for recreational purposes violates the wilderness principle. He insists that the way to get the most out of forest recreation is to pit your wits and skill against Nature, with no artificial aids. This is the badge of the "experienced woodsman." But how many of us are fit to wear that badge? Unfortunately, very few.

And what about the rest of us? True, every sportsman is playing a game with Nature. But we all aren't playing the same game, so we cannot all be bound by the same rules. And Nature can play a rough game sometimes. She often exacts a heavy toll for a man's mistakes. She is not always sportsmanlike, and has even been known to kick a man when he was down. She is always playing for keeps. Man on the other hand is playing the game for fun. He goes into the woods to enjoy himself, not to show off. So the not-so-skilled woodsman would be wise to take a set of aerial photos with him as insurance against tragedy.

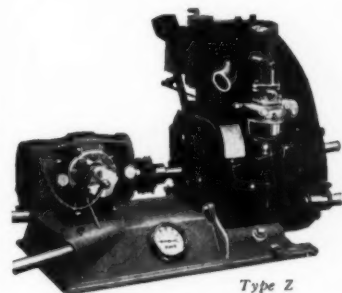
Using aerial photos is harmless to the forest. If a would-be sportsman were to mount a bulldozer and crash his way into a wilderness area, I would stand beside Mr. Wagar and protest as loudly as he. But a man can cross a wilderness area with a stereoscope and an armload of aerial photos and no one will be any the wiser. It will still be a wilderness area to those who follow.

I do not feel it unsportsmanlike for the week-end woodsman to guide himself with aerial photos. If I were an expert bowman, would it be sportsmanlike for me to insist that the rifle be banned from the woods? Or would it be sportsmanlike for me to demand that my opponent in a shooting match remove his glasses because my vision is perfect?

My article was intended primarily for the amateur outdoorsman, the man who looks forward each year to a few days hunting or fishing in the back country—not for the experienced woodsman. But how does a man get to be an "experienced woodsman"? Is it not by spending many, many hours in the woods observing the lay of the land and the pattern of the forest? I am sure the novice's apprenticeship could be shortened if he learned something about the land and the forest from the air.

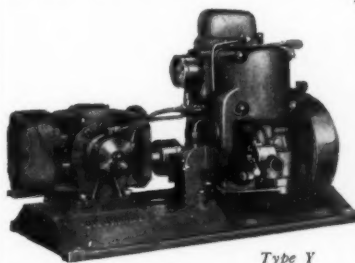
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# Editorial

## REUNION 'MONGST HARD-WON BOUNTIES

What better backdrop than colorful Western North Carolina in October for a spiritual uplift and a re-dedication to the cause of natural resource conservation? That was the sentiment of AFA members and guests attending the 77th Annual Meeting at Asheville October 12 to 15.

It must have given those in attendance an added feeling of satisfaction and pride when they realized that this Association to which they belong played a very real part in making sure the bounties so abundant in these picturesque mountains would always be with us and not wantonly gobbled up by the selfish or unthinking.

Yes, there still remain a few oldtimers in the ranks of AFA who can hark back to the early days at the turn of the century and recount the battles and maneuvering which resulted in passage March 1, 1911 of the famous Weeks Act. It was the Weeks Act which made possible the purchase of private lands for incorporation into national reserves—necessary because the East had no public domain as did the West out of which to carve National Forests.

It was in 1905, six years earlier, that The American Forestry Association as such took up the campaign for the establishment of a forest reserve in the Southern Appalachians. A handful of its members and friends had been active in the movement prior to that. As early as 1885 Dr. Henry O. Marcy of Boston saw the advantages of this region as a health resort, and in a paper on the climatic treatment of disease read before the American Academy of Medicine in New York advocated government purchase of lands in the Appalachians.

Dr. Chase P. Ambler took up the battle in 1889 and enlisted the support of Judge William R. Day, former Secretary of State. The idea gained momentum as such leading conservationists as Gifford Pinchot, Dr. Joseph Hyde Pratt and Dr. Carl A. Schenck lent their support.

The Weeks Act as finally passed marked a memorable milestone in the history of forest legislation. Besides authorizing the purchase of private lands for incorporation into national reserves, it permitted the federal government to contribute to such state fire suppression organizations as complied with Forest Service standards, protected watersheds of navigable streams and provided demonstration areas for scientific forest management, reforestation and continuous

timber production, as well as for wildlife protection and recreation.

Thus AFA members could be forgiven if they assumed somewhat more of a proprietary air over what they viewed than would be expected of the ordinary taxpaying citizen. As they rode through the Pisgah National Forest they could see first hand in this oldest national forest of the East (officially proclaimed by President Woodrow Wilson in 1916) examples of forest management and timber production, of recreation areas and wildlife protection.

The visit to the 5400-acre Coweeta Hydrologic Laboratory on the Nantahala National Forest, where extensive watershed studies on the headwaters of the Little Tennessee River are furnishing invaluable lessons in land use techniques, opened wide the eyes of AFA members to the service now being rendered mankind as a result of the Weeks Act. Here in one of the highest rainfall-producing belts in the United States are being solved a series of problems in erosion and flood control which have long harassed countless landowners.

That it is more than a study area is evidenced by the fact that within the boundaries of the Nantahala are nine major reservoirs for the production of hydroelectric power, for flood control and for recreation. Both the Nantahala and Pisgah forests also serve as important producers of timber for a great variety of forest products without interfering with watershed protection.

A like possessory interest holds good for the Great Smoky Mountains National Park, which gets its name from an ever-present bluish haze. Most visited of any national park, its 200,000 acres of primeval forest is destined to remain just that, thanks to the efforts of vigilant conservationists at the turn of the century.

That the Southern Appalachians are today relatively free from great patches of fire-seared timber is also traceable in some measure to the AFA's 1928-1931 Southern Educational Project against woods-burning customs. Thus the area is today a center of diversified forestry and conservation of which we may all be proud. Yes, the vicinity of Asheville has often been called the cradle of American forestry, and AFA members can boast their Association had a part in rocking the cradle.

# SELECTED BOOKS ON FORESTRY AND RELATED FIELDS OF CONSERVATION

# THE BOOKSHELF

## TREES

A First Book of Tree Identification—Rogers .....	\$ 2.50
A Natural History of Trees of Eastern & Central North America—Peattie .....	5.00
Forest Trees of the Pacific Coast—Eliot .....	5.00
Handbook of the Trees of the Northern States and Canada—Hough .....	5.50
Maintenance of Shade and Ornamental Trees— Pirone .....	6.50
Meet The Natives—M. Walter Pesman .....	2.25
The Arboretums and Botanical Gardens of North America—Wyman .....	1.50
The Home Book of Trees and Shrubs—Levison .....	10.00
The Trees of Pennsylvania—Grimm .....	5.00
Trees of the Western Pacific—Kraemer .....	5.50
Trees for American Gardens—Wyman .....	7.50
Tree Trails and Hobbies—Cater .....	3.50
Trees—Yearbook of Agriculture—1949—U.S.D.A. ....	2.00
What's That Tree—Appleton .....	.25

## GENERAL FORESTRY

An Introduction to American Forestry—Allen .....	\$ 5.50
Bernard Eduard Fernow—A Story of North Ameri- can Forestry—Rodgers, III .....	7.50
Forests and Men—Greeley .....	3.00
Indian Forest and Range—Kinney .....	4.50

## FOREST MANAGEMENT

Aerial Photographs in Forestry—Spurr .....	\$ 6.50
Applied Silviculture in the U. S.—Westveld .....	6.00
Forest Management—Chapman .....	6.00
The Management of Farm Woodlands—Guise .....	6.00

## MENSURATION AND VALUATION

Forest Mensuration—Bruce & Schumacher .....	\$ 6.00
Forest Valuation—Chapman & Meyer .....	6.50

## WOOD—ITS MANUFACTURE AND USE

A Concise Encyclopedia of World Timbers— Titmuss .....	\$ 4.75
Air Seasoning and Kiln Drying of Wood—Henderson ..	5.75
Farm Wood Crops—Preston .....	4.25
Forest Products—Brown .....	5.30
Harvesting Timber Crops—Wackerman .....	6.00
Logging—Brown .....	5.50
Lumber—Brown .....	4.75
Textbook of Wood Technology—Brown, Panchin & Forsyth, Vol. II .....	10.00
The Coming Age of Wood—Glesinger .....	3.50
The Mechanical Properties of Wood—Wangaard .....	6.00

## PLANTING OF TREES AND FORESTS

Farm Wood Crops—Preston .....	\$ 4.25
Plant Buyers Guide—Steffek .....	7.50
Principles of Nursery Management—Duruz .....	3.50
Tree Crops, A Permanent Agriculture—Smith .....	6.00
Woody-Plant Seed Manual—U. S. Forest Service .....	3.00

## FOREST PESTS AND FOREST FIRES

Fire—Stewart .....	\$ 3.00
Forest Pathology—Boyce .....	7.50
Insect Enemies of Eastern Forests—Craighead .....	2.50
Our Enemy The Termite—Synder .....	3.50
Principles of Forest Entomology—Graham .....	6.00

## NATIONAL PARKS

Exploring Our National Parks and Monuments— Butcher (Paper \$2.50) .....	\$ 4.00
My Camera in the National Parks—Adams .....	10.00
My Camera in Yosemite Valley—Adams .....	10.00
Steve Mather of the National Parks—Shankland .....	4.00

## CAMPING AND RECREATION

Field Book of Nature Activities—Hillecourt .....	\$ 3.95
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How to Live in the Woods—Halsted .....	2.75
The Book of Nature Hobbies—Pettit .....	3.50

## BIRDS, WILDLIFE, FISHING AND HUNTING

A Field Guide to the Birds—Peterson .....	\$ 3.50
An Introduction to Birds—Kieran .....	2.50
Audubon's Birds of America—Griscom .....	2.95
Birds of Prey of Northeastern North America— Hausman .....	3.75
Fishing Flies and Fly Tying—Blades .....	7.50
Fresh Water Fishing—Carhart .....	5.00
Game Management—Leopold .....	7.50
Mammals of North America—Cahalane .....	7.50
Northwest Angling—Bradner .....	5.00
Our Desert Neighbors—Jaeger .....	5.00
Raising Game Birds in Captivity—Greenberg .....	5.95
The Birds Are Yours—Lemmon & Eckelberry .....	2.25
The Elk of North America—Murie .....	6.50
The Fisherman's Encyclopedia — Gabrielson & La- monte .....	12.50
The Land and Wildlife—Graham .....	4.00
The Saga of the Waterfowl—Bovey .....	5.00

## FLOWERS, GARDENING AND LANDSCAPING

American Wild Flowers—Moldenke .....	\$ 6.95
American Wild Flowers—The Illustrated Encyclo- pedia of—Hausman .....	2.49
How to Landscape Your Grounds—Johnson .....	3.50
Shrubs and Vines for American Gardens—Wyman .....	7.50
Wild Flower Guide—Wherry .....	3.00

## MISCELLANEOUS

American Resources—Whitaker & Ackerman .....	\$ 6.75
America's New Frontier — The Mountain West— Garnsey .....	3.50
Big Hugh—the Father of Soil Conservation—Brink .....	2.75
Big Jim Turner—Stevens .....	3.00
The Book of the States—Smothers & Cotterill .....	7.50
The Cascades—Mountains of the Pacific Northwest —Peattie .....	5.00
Conservation in the U. S.—Gustafson, et al .....	5.00
Conservation of Natural Resources—Smith .....	6.00
Elements of Soil Conservation—Bennett .....	3.20
Hunger Signs in Crops—A Symposium—Amer. Soc. Agronomy et al .....	4.50
Legends of Paul Bunyan—Felton .....	5.00
Modern Encyclopedic Dictionary of the Holy Bible —Jenkins .....	4.00
Of Men and Mountains—Douglas .....	4.00
Our Plundered Planet—Osborn .....	2.50
Our South—Its Resources and Their Use—Evans & Donahue .....	3.50
Out of the Earth—Bromfield .....	4.00
Pennsylvania's Susquehanna—Singmaster .....	6.00
Road to Survival—Vogt .....	4.00
Spray Chemicals and Application Equipment—Mc- Clintock & Fisher .....	6.00
The Lumberman's Handbook & Directory of the Western Forest Industries .....	12.00
The Lumberman's Handbook & Directory of the Southern Forest Industries .....	5.00
Time, Tide and Timber—Coman, Jr. & Gibb's .....	5.00
Water, Land and People—Frank & Netboy .....	4.00
Western Land and Water Use—Saunderson .....	3.75

## THE AMERICAN FORESTRY ASSOCIATION

Knowing Your Trees—Collingwood & Brush .....	\$ 5.00
Teaching Conservation—Beard .....	1.50
Managing Small Woodlands—Koroleff & Fitzwater .....	1.00
Trees Every Boy and Girl Should Know .....	.50
Progress of Forestry .....	3.00

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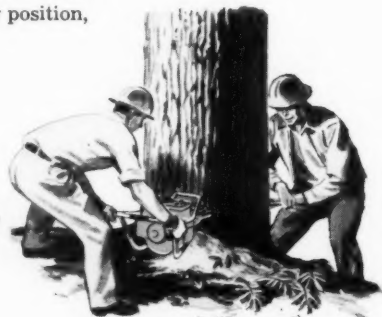


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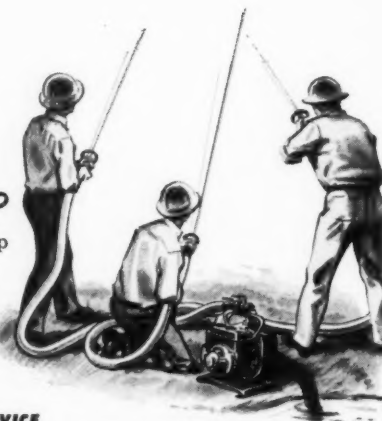
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